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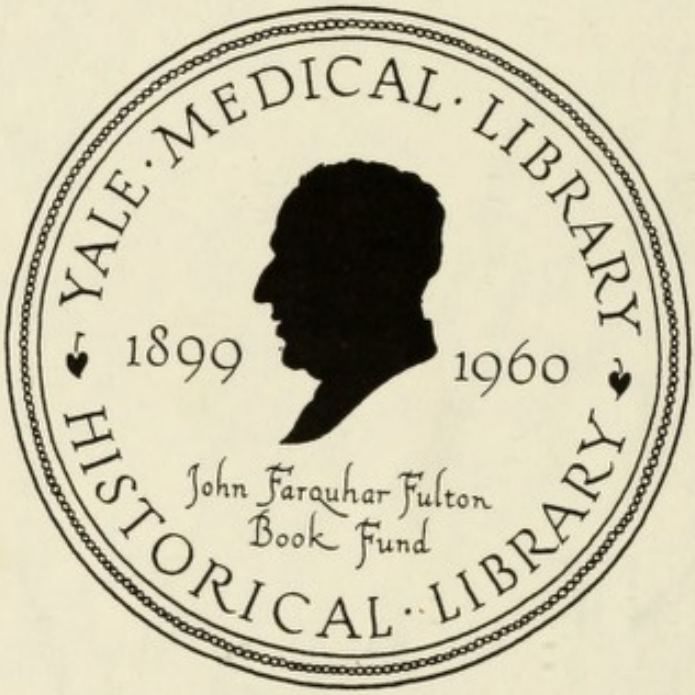
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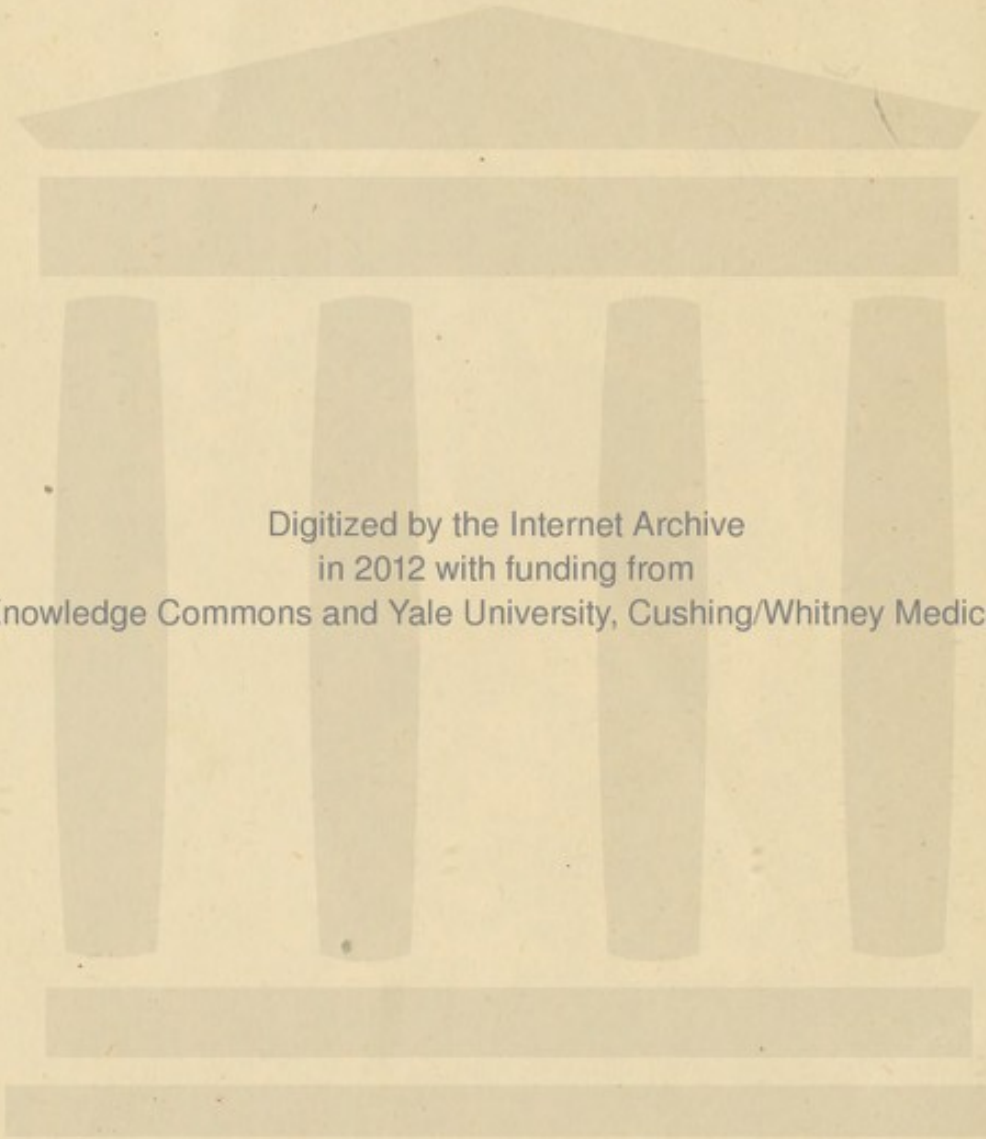
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A TREATISE ON DISEASES

PECULIAR TO

INFANTS AND CHILDREN.

By W. A. EDMONDS, M.D.,

PROFESSOR OF PÆDOLOGY IN THE ST. LOUIS HOMŒOPATHIC COLLEGE OF PHYSICIANS AND SURGEONS; MEMBER OF THE WESTERN ACADEMY OF HOMŒOPATHY, AND LATE CHAIRMAN OF THE BUREAU OF PÆDOLOGY; MEMBER OF THE AMERICAN INSTITUTE OF HOMŒOPATHY, AND CHAIRMAN OF THE BUREAU OF PÆDOLOGY;
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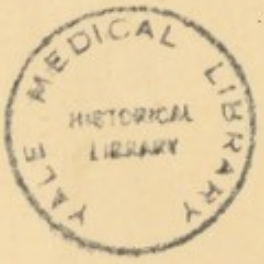
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To

THE MOTHERS OF AMERICA;

WHO FURNISH CLIENTAGE TO THE PROFESSION AND

POPULATION TO THE LAND;

This work

IS MOST RESPECTFULLY INSCRIBED; BY ONE WHO

SO WARMLY ADMIRES THEIR BEAUTIFUL

GRACES AND MANY EXCELLENT

VIRTUES.

THE AUTHOR.

PREFACE.

In attempting the *rôle* of authorship before the republic of professional readers, I very well understand I am asking an audience at the hands of a most imperious tribunal, where the only avenue to acceptance is, ability to meet a necessity or gratify a desire. In presenting myself before this august tribunal, I shall not enter the stereotyped plea of importunity from others to do so; nor shall I ask indulgence or forbearance, on the insincere, puling plea, of a self-conscious incompetency for the proper performance of my self-imposed task. If I have been right in supposing a new book in this department of medical literature a necessity, and have faithfully and competently supplied such necessity, I shall demand at the hands of the before-mentioned magisterial tribunal, my due meed of reputation and revenue.

Making this my first literary venture, in the maturity of professional manhood, with tastes, inclination, and an ample experience, as elements of qualification, for the work, I send it abroad with a confident assurance of that favorable acceptance at the hands of the profession which merit has a right to expect and demand.

It gives me very great pleasure to acknowledge my indebtedness to my very particular friend, Professor J. A. Campbell, of The St. Louis College of Homœopathic Physicians and Sur-

geons, for two learned articles: one on Ophthalmia Neonatorum; the other on Otitis, acute and chronic.

It is proper also I should acknowledge my indebtedness to valuable medical works by Drs. Duncan, Meigs and Pepper, West, Buchut, Hering, Hughes, and others, as valuable reference assistance in the execution of my work.

St. Louis, 1881.

INTRODUCTION.

SUBJECTS to which we have given much time and thought are very likely to assume a quality of importance which might not otherwise attach to them in our estimation. After all due allowance for such artificial color of importance, we think it may safely be affirmed, that no subject pertaining to civilized humanity is so difficult in its study and practice, or so important to humanity's physical, personal welfare, as the study and practice of medicine; and that of all the various specialties and subdivisions of this subject, none are so difficult and important as the hygienic and medical management of infants and children.

This estimation has, to a considerable extent, been recognized in the fact, that this class of studies and duties has obtained separate rank in the profession under the title of pædology. The importance of the subject is involved in the fact that a healthy, vigorous infancy and childhood give the best guarantee for a happy and prosperous manhood and womanhood; whilst a frail, delicate infancy and childhood offer little else to the future man or woman than pain, peril, and premature decay.

The difficulties that environ the professional pathway of the pædologist present themselves in the specially perilous violence of symptoms peculiar to the tender years of life, and the very great difficulty in many cases of getting any other than a few objective symptoms; the subjective and more important ones

being largely concealed or obscured by delirium, wilfulness, or a want of sufficient intelligence to communicate.

The object of the contemplated work will be, to furnish a suitable textbook for students, and a convenient reference-book for practitioners. The study only of such diseases as are peculiar to infancy and childhood will be attempted, to the exclusion of such as are common alike to the later as well as the earlier years of life. Nor will any symptom or group of symptoms, defects, or accidents be included, the proper management of which is purely surgical; such as clubfoot, harelip, atresia of natural outlets, strabismus, spinal curvature, etc. By such process of exclusion we shall hope to simplify the duties of authorship, complete the work within reasonable compass, and at such reasonable outlay in time and expense to the purchaser and reader as may furnish very decided inducement to patronage from the profession.

All nosological plans heretofore in vogue have been more or less arbitrary and inconsistent, not exactly pleasing either author or reader. We shall not hope to be more fortunate in these objectionable particulars than the learned and industrious predecessors who have gone before. The leading idea in classification will be to group together those diseases which implicate the anatomical integrity and physiological harmony of particular regions of the body. For instance, the respiratory group will include croup, bronchopneumonia, catarrhal fever, diphtheria; the buccal cavity group will include tonsillitis, stomatitis, aphthæ, cancrum oris, etc. Others again will be grouped and treated together, because of having in common certain leading peculiarities, as the eruptive, contagious fevers. Still others will be grouped and treated because they have no special affinity for one another, or any of the subdivisions in classification.

The subject of potency we shall leave precisely where we find it,—an open question,—hoping that the industry and research of the near future may bring the profession into harmonious accord on this momentous topic.

Pathology and pathological anatomy may be safely and prudently trusted in the hands of the various learned and industrious specialists who have shown such zeal and ability in this most interesting and important department of professional investigation. We shall thus be left free to give the largest possible share of attention to the great practical end and aim of the profession: recognition of symptoms and their therapeutic relief.

As a most important factor, both in the cure and prevention of disease, hygiene, in addition to a chapter specially devoted to the subject, will receive very frequent incidental attention during the progress of the work. If we reflect that probably four-fifths of all the ills that flesh is heir to, come from irrational modes of life and adverse hygienic surroundings, and how much the duration, violence, or mildness and mortality in disease is influenced by the simple matter of rational modes of life and cleanly surroundings, it would be hard indeed to overestimate the value of correct views and intelligent practices in these matters.

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ERRATA.

Page 106, 16th line from top, put "exhalation" for "efflorescence."
Page 134, 1st line top, put "housed" for "bound."
Page 146, 7th line from top, put "defective" for "difficult."
Page 152, 20th line from top, put "apposition" for "opposition."
Page 168, 13th line from top, put "faucial" for "facial."
Page 172, 3d line from top, put "are" for "were."
Page 179, 6th line from bottom, put "or" for "nor."
Page 185, 3d line from top, put "self-limiting" for "self-tending."
Page 186, 3d line from top, omit "had."
Page 206, 4th line from bottom, put "adapted" for "adopted."
Page 233, 10th line from top, put "osseous" for "asseous."
Page 248, 7th line from bottom, put "rosary" for "rasory."
Page 262, 7th line from top, put "former" for "latter."
Page 215, 13th line from bottom, put "externus" for "externo," and next line below omit interrogation point.

ON DISEASES

PECULIAR TO

INFANTS AND CHILDREN.

EXAMINATION OF SICK CHILDREN.

As almost every monograph on Pædology has a chapter under this head, this may seem rather a work of supererogation. The task is self-imposed, not because anything very new or original may be presented, but in order to furnish a *résumé* of the latest and best views drawn from various sources of books and observation upon a subject of very great importance to the practitioner who essays the *rôle* of family physician.

We premise no physician will ever have full and comfortable success as a pædologist who has a brusk, reticent, undemonstrative manner. It is indispensable that the physician having children in charge should convince them by his manner that he likes them, and sympathizes with them in their whims, foibles, and peculiarities. Their intuitions as to whom they ought to like and ought not to like are marked and wonderfully accurate at a very tender age. They act largely in harmony with the sentiment of the doggerel saw,

> "I do not love you, Dr. Fell,
> The reason why I cannot tell;
> But this at least I know full well,
> I do not love you, Dr. Fell."

No opportunity should be lost in order to cultivate their good opinion and friendship, whether in the sick-room, in the family

circle, in the open thoroughfares or market-places. The control and confidence thus gained will be of incalculable advantage under the trying perplexities and exigencies of the sick-room.

Under the malign domestic influence of threatening children with barbarities at the hands of the doctor, in order to frighten them into good behavior, and the other adverse influence of crude doses and harsh appliances at the hands of allopathic treatment, they sometimes acquire such a dread of professional approach or touch as to make it impossible to institute anything like satisfactory examinations, until, after two or three visits, friendly, trusting, and pleasant relations shall have been established. Let no opportunity, then, be lost to cultivate popularity in the department of juvenile clientage, though it be at the risk of seeming to play the demagogue for the sake of patronage.

With all these precautions on the part of the physician to place himself on pacific and cordial relations with his little clients, many obstacles obtrude themselves across his path in the line of symptomatic and historic investigation. Some are of such tender age as to have neither volition or intelligence as a means of giving either subjective or objective symptoms. Others, of older age, from fright in the presence of the physician, perverseness, wilfulness, delirium, or pain, are wholly unfitted to assist in the investigation.

As a rule, the most satisfactory and important part of the investigation may be made while the child is asleep. The mother or nurse gives a thorough and complete account of probable cause, the number, violence, or mildness and duration of the symptoms, in a clear and consecutive order, without being hindered or interfered with, the meanwhile with efforts to amuse or pacify the waking, restless little patient.

With equal or even greater advantage does the physician, while the child sleeps, get a correct estimate of the respiration, pulse, the temperature, state of the skin as to dryness or perspiration, auscultate the heart and lungs, ascertain the flaccidity or hardness, flatness or tumidity, of the abdomen, together with manual and

ocular exploration of any local external abnormal conditions that may have occurred during the progress of the case.

After thus gleaning up all that may be obtained from present observation, as well as the past history of the case, the child should be aroused from its sleeping condition so as to contrast the manner between sleeping and waking, and if of suitable age, to push investigation by addressing it directly as to any sensations, whether normal or abnormal, of which it may be able to take cognizance, such as pain, thirst, nausea, anorexy; and also to investigate the state of the tongue, mouth, and throat with reference to the healthful or pathological state of the great chylopoëtic viscera. Then, too, certain symptoms may be held in abeyance during the state of sleep which come prominently to view on waking, such as cough, nausea, purging, vomiting; of the peculiar qualities and characteristics of each and all of which the physician should advise himself by direct personal observation. For instance, a spurting, spastic manner in either alvine or gastric dejections will indicate cerebral and neurotic complications, and should have corresponding peculiarity of treatment; pain previous to, during, or after the stool will each furnish valuable hints therapeutic. In most instances a cough needs only to be heard by the physician in order to determine all the questions as to dryness, moisture, hardness, softness, pain, and, per consequence, the requisite remedies. So, then, the two states of sleeping and waking each furnish peculiar facilities for those practical conclusions and nice distinctions of much diagnostic and therapeutic importance to any practitioner, and especially to the homœopathic physician.

In dubious or undeveloped cases, time, deliberation, and repeated examinations at various periods of the twenty-four hours may be essential to the welfare of the patient as well as the reputation of the physician before announcing a diagnosis or settling down upon a line of treatment. For instance, let it be borne in mind that common acute catarrh, whooping cough, and the eruptive fevers, have a very strong resemblance to each other at the inception, and no human or professional skill or sagacity can

settle the question of identity and diagnosis short of the setting up of certain peculiarities pathognomonic of the case in question.

Should a case of recent fever, cough, coryza, be hastily pronounced one of simple catarrh, the physician may be humiliated within thirty-six hours by the appearance of the rubeolous eruption; or diagnosing a case of recent fever and sore throat as one of tonsillitis or faucitis, his disparagement may come in the garb of scarlet rash inside of twenty-four or thirty-six hours. Take, then, the benefit of time, deliberation, and repeated examinations in these dubious cases.

Another important reason for frequent visits and repeated examinations in infantile diseases grows out of much proneness to sudden and adverse changes and complications. A child with simple fever in the morning may fall into cerebral complications and violent convulsions before night. A case of simple bronchial or catarrhal fever in the morning may be one of dangerous pulmonary congestion and vesicular emphysema by nightfall. A simple gastric irritation of to-day may be one of perilous gastro-enteritis on the morrow. A case of scarlatina simplex may suddenly spoil a very favorable prognosis by assuming the most malignant form. A mild faucal diphtheria may take a sudden dip into the trachea and larynx, and terminate fatally inside of forty-eight hours. A mild diarrhœa may quickly become a violent and dangerous entero-colitis. Repeated visits and re-examinations may fail in many instances to prevent or control these adverse changes and complications, but in the conclusion of the case the physician will enjoy a conscious self-approbation, and stand all the better in the estimation of those who witness his faithful diligence.

The seemingly simple matter of *manner* in entering the sick-chamber of a child is of first-class importance. Let the physician present himself suddenly, unannounced, into the presence of his little patient, armed *cap-a-pie* with hat, overcoat, gloves, and whip, and staring intently at the little one, begin his examination with rapid, noisy speech, and nine times out of ten a state of terror,

consternation, and commotion will be engendered, thoroughly subversive of any satisfactory comprehension or understanding of the case. The real symptoms of the case assume an artificial, temporary aggravation, whilst new and transient appearances are added, all going to obscure the genuine symptoms to be observed, before any proper diagnosis or therapeutic view can be arrived at.

As a very general rule the sick-room should be entered in a quiet, gentle, and unpretending manner. The patient for a time should not seem to be seen. Anything or everything should be the object of attention and remark rather than the child and its symptoms. The first approaches should seem to be made in an accidental or incidental manner. If a boy of suitable age, offer him a ride in your buggy, or the use of your whip or pocket-knife; if a girl, show her your jewelry, and inquire about and affect an admiration for her new doll, or her ribbon or dress; if toys be at hand, join in the use of them; if mealtime be near, inquire what the little patient would like to have to eat, making mention of such delicacies as strawberries, peaches, ice cream, etc. A little time spent in these trivial artifices will at once establish such amicable relations between the parties concerned as to allow of a most thorough and minute examination as to symptoms, both local and general, objective and subjective. Disregard of these seemingly small matters has driven many a physician from the bedside of his patient in a state of despondent disgust after making a haphazard, routine, or *placebo* prescription, which, so far as the real symptoms are concerned, might as well, or better, not be made at all.

Certain symptoms, appearances and habits are of great importance in the case of a sick child, which might not appear in adult sickness; or, if appearing or existing, would be of comparatively little importance.

For instance, great calorific extremes are to be vigilantly watched and guarded, as great heat strongly tends to lead to convulsions, and a low temperature to congestions and collapse.

Vigilance, startings, whether sleeping or waking, with the

thumbs drawn into the palmar surface, always portend brain complications and convulsions. The slightest appearance of convulsive disorder should at once enlist grave apprehension and the utmost preventional diligence. Adults will have five, ten, fifteen, or twenty convulsions to the twenty-four hours, with no other adverse result than the personal discomfort at the time, and the resulting muscular soreness and relaxation the next day after. They very rarely die in such seizures. The result is far different to babyhood and childhood. The first one may be fatal; the second has increased danger; if the third do not kill, permanent paralysis or other damage will be a fearful probability. Probably a majority of all the children who have convulsions receive permanent hurt, die, or become hopeless during the third seizure. The extremes of vigilance and profound sleep should not be underestimated as important factors and indicators in the matter of results and tendencies.

Great dryness of the skin inclines to fever and inflammation, much perspiration to debility and prostration.

No case of acute throat trouble should ever be disposed of in the examination without careful ocular inspection as to the presence or absence of *diphtherite* or other malignant appearances.

The extremes of diarrhœa and constipation should receive due attention, especially the latter. Children suffer more from constipation than diarrhœa. The reverse is true of adults.

In acute diseases there should nearly always be a careful dietetic inquisition as to time, quantity, and quality. Such an inquiry will frequently be necessary in chronic cases, especially in diseases of the digestive apparatus. Under what conditions of atmospheric extremes the child may have had recent exposure with or without exercise should be carefully noted. In a family of children much prone to sickness let there always be careful inquiry as to the nursery and sleeping apartments in the matter of heat, light, ventilation, and wardrobe.

The foregoing hints have been hastily thrown together under the conviction that no art, profession, or calling incident to civil-

ized humanity is so difficult as the practice of medicine, and that no branch or department of medical practice is so difficult and important as the treatment of children, who probably furnish one-half to two-thirds of professional clientage, and a place of corresponding or even greater magnitude on humanity's death-roll.

HYGIENE FOR INFANTS AND CHILDREN.

THIS subject is divisible into: Diet, Exercise, Air, Clothing, Bathing, Amusements, Education, Locality, Method.

Of these the last mentioned is of paramount importance.

Method.—Without due attention here, all the other items or elements of any hygienic effort will surely prove a miserable failure. It is a grave mistake to suppose that even very young infants and children may not be taught and brought to conform to good or bad habits. They are readily taught good methodical habits, or evil and vicious ones, in the very first week of infantile life. Of course the range of impulse at this early date is not large, referring mainly to food, motion, and sleep. There are just two great leading elements of all success, comfort and well-being, whether physical, mental, or moral: Method; Self-denial. Method should come into play in the very first days of infantile life; Self-denial at the very earliest dawn of intelligence. Let these two qualities pervade the life's experiences, from early babyhood to the death or old age, and success, happiness, and prosperity will constitute the rule, whilst misery, failures, and unhappiness will be the exceptions. I dwell with peculiar interest on this subject, believing, as I do, that it should be the duty and prerogative of the physician to get largely the start of the clergyman, moralist, and publicist in shaping and directing the character and best interests of our common humanity.

Diet.—This should be provided with special reference to

quality, quantity, time. Inattention to either or all of these will be surely and quickly indicated by manifestations of discomfort and indisposition. With the abundance of good food at reasonable price, or so easy of production in this country, excessive quantity, with irregular or insufficient interval, is a prolific source of disease and early death. We find children allowed and even encouraged to eat as a matter of sensuous indulgence and amusement, without any reference whatever to the healthful needs of the body. Having food enough to become unhappy, neither they or those having them in charge seem to know or think of any other mode of relief than additional dietary indulgence, which only palliates matters for a moment at the expense of increased discomfort to follow. Then, too, this excessive quantity is quite surely aggravated by insufficient or irregular intervals. Digestion is a series of processes beginning with the oral prehension of food, and ending with its arrival in the circulation of the blood. Pending the completion of this symmetrical physiological process, the ingestion of new, additional food throws the whole process into confusion, resulting in malassimilation, malnutrition, pain, and sickness. Under such a medley of disordered habit and function the digestive organs rarely ever get an interval of rest and repose between the completion of one task and the commencement of the next. A most painful, ludicrous illustratration of the confusion and excess in this matter of diet may be seen almost any day in the spectacle presented by a nursing mother's management, or rather want of management in this particular. Nursing her child with such frequency and irregularity as to result in the manifestation of pain, and even sickness, by crying and contortion of limb and body, she takes such manifestations to be an indication of hunger, and, of course, repeats the application to the breast; with the further result of increased pain, to be followed by more nursing and farther increase of pain, until the child's instinct or serious illness prompts it to desist from a plan of abuse which the mother's intelligence ought to have prevented. Young children rarely or never shriek and cry for the want of food.

Manifestations of hunger are always in a more subdued and gentler manner of wish and discontent. The usual fruit of such palpable abuse is acetous fermentation, resulting in pain, nausea, vomiting, diarrhœa; or constipation, fever, convulsions, death. Many a poor, sorrowing mother has lost her loved infant in this way, and as she supposed by a visitation of Providence, instead of a visitation by her own ignorance and mismanagement. Of course, quantity, quality and time must have reference to age, health and activity. For the first year of infantile life *milk* should constitute the "staff of life." The natural source of supply is the breast of a healthy, willing mother. The interval at first should be two hours, to be gradually increased as age advances to three, four, or five hours, with an interval of abstinence of six to eight hours during the sleeping hours of the night; never allowing a resort to the breast as a means of inducing repose, quietude, or amusement either day or night. If uniformity and length of interval be observed the source of supply and the natural demand will safely regulate the matter of quantity. In case of the mother's death, sickness, or default of supply, the best artificial source of supply will be fresh milk from a healthy cow. And by a healthy cow we mean one that lives much in the open air, with her natural habits and instincts as to mode of life fully gratified; and not one that is tortured in the restraints of stall confinement, in the midst of her own ordure, and bloated with swills and slops. The milk should be diluted in the proportion of one part of milk to two parts of boiling water, with a little white sugar for very young infants, with a gradual increase in the proportion of milk as age advances. If this source of supply be used with proper reference to length and regularity of interval the appetite will safely regulate the quantity needed. Inattention to the two points of length and uniformity of interval leads surely to that state and habit of gormandizing, discomfort and sickness so fatal to what are known as "bottle-fed" infants. During the second year of infantile life, while the intervals should be increased to four or six hours, there should be gradual additions;

such farinaceous articles as well-cooked oatmeal, rice, barley, soft stale bread, with an occasional dish of animal broth. Solid food, during this period, should be prohibited; the child is not prepared for the business of mastication, as the young and tender teeth, if all through the gums, are unfitted for use, and if used are likely to fall into disease and decay, while the imperfectly masticated food goes to the stomach in such improper condition as to make trouble there. During the third year well-cooked fruits and vegetables generally may be added to the supply allowed for the second year. Children entering the fourth year may be allowed fresh, lean meat once per day, but should never be so indulged oftener than once per day until ten years of age, and never at the evening meal. A matter of the very first importance is simplicity at a given meal; that is to say, from one to two or three dishes at a time. Variety may be sought, if desired, by change of articles from one day or meal to the next, but not in varied, complicated supply at the same meal. Nuts and sweetmeats, if taken as part of a regular meal, may be allowed older children, who are prepared to masticate. When so taken the quantity is less likely to be excessive and devoid of that irregularity as to time, which might hinder the digestion of the last preceding or next succeeding meal. The indulgence in such articles at other than the regular meal-hours is a prolific source of abuse, leading to much unhappiness and violent illness.

Sleep.—In the early months of tender infancy children should be encouraged to sleep, and allowed to sleep almost without limit; provided no such artificial helps as rocking-chairs, opiates, or stimulants be brought into requisition. At this period of life, sleep seems to be the normal vegetative condition of those energies and activities so limited in range, and so recently passively performed in utero, except as to respiration and the mode of nutrition. As tender infancy vanishes and a robust active childhood approaches, with new and increasing energies, activities and uses, the demand and opportunity for sleep gradually diminish, and the

whole process of change and demand, in a healthy well-regulated infancy and childhood, may safely be left to take care of itself.

Air.—It will be found exceedingly difficult to give infants and children too much fresh air, if we avoid strong currents and all extremes of heat and cold, wet and drought. In all suitable weather they should be allowed literally to live in the open air.

Exercise.—Exercise should have much the same unlimited range, whether indoor or outdoor, having due reference to partial or unequal activities of the body and the avoidance of exhaustion or great fatigue. They should be encouraged to run and romp and leap and tumble in the open air, and in the dirt, from morning to night. Should the weather of the open air forbid outdoor disports, let there be provided in every well-regulated house a room, ample in size, well lighted, warmed and ventilated, to which the children may repair, and where fun and frolic may reign supreme, and where no testy soul may have any right to protest against the din and clatter and prattle so essential to the juvenile welfare. And thus let us encourage and foster a glorious, joyous happy childhood, which shall be father to a glorious, joyous, happy, useful manhood and womanhood. Let children grow up to adult age, looking back upon a rational, pure, happy and beautiful childhood; and this retrospect, with the restraining influences of the church, will rapidly depopulate our prisons, almshouses and hospitals. I scarcely know of any more blighting and desolating influence, mental, moral or physical, than the retrospect to a dark, miserable, cheerless childhood.

Clothing should have two important objects or qualities prominently in view: protection of the body from immodest exposure and against irregularities or atmospheric extremes, and non-constraint of every member and part of the entire person. These two objects, protection and non-constraint, being accomplished, the mother's fancy may have its own range as to ornament and display, provided the child be not rendered conscious of a condition or sense of finery, for such consciousness is itself a very uncomfortable form of constraint to the child personally,

and likely to be a source of taunts and jibes from playmates. In order to protection, and to avoid oppression, clothing should be sedulously changed to suit the ever-recurring changes of our middle latitude climate. Mothers constantly importune the medical man for advice as to whether children should wear flannel during the warm weather of our summer-time. There seems to be a strong prejudice or prepossession in favor of the flannel underwear among the people. I cannot see the slightest advantage in such a practice in hot weather, except that the flannel may be in place when the cool or cold weather does come. But such advantage is certainly greatly offset by the intolerable oppression during hot weather when not needed. Such a theory and practice is about as rational and defensible as it would be to keep a roaring fire in the bedroom in hot weather, in order that it might be in place for any cool or damp day that may chance to happen during our summer months. The advice I give inquisitive mothers on the subject is to use just clothing enough in hot weather to keep the flies off the child's back, and to make such changes or additions as may need be from time to time, let it be once or a dozen times per day. In cool or damp weather of our summer-time a short hasty fire in the bedroom or nursery, built early in the morning and renewed occasionally during the day as may need be, will be found both comfortable and especially healthful. Among the comfortable and pleasant recollections of my early childhood are the cool damp mornings of summer and autumn, when, with a slice of cold bread for my early lunch, I toasted my little bare feet and shins near the cookroom fire, and inhaled the appetizing fumes of the room, as my dear mother busied herself with preparations for the morning family meal.

Bathing.—Systematic and correct views and practices in the matter of bathing children, are of the very first importance in any plan of juvenile hygiene. As a very general rule they should have but one full bath per day. The early morning hour or the latest evening hour should be preferred, in the main, preference being given to the morning rather than the evening. A bath in

the morning should be cold or tepid; at bedtime it should be warm or hot. Any bath for a child should be hasty, and be followed by such abundant dry frictions as shall secure immediate warmth and reaction. Food should not be taken in less than thirty minutes after the bath, nor until full reaction shall have been established; nor should any bath be taken nearer than two hours after a meal. Young children should never be trusted to take a bath without adult supervision, as they will quite certainly protract the bath too long and be sure to omit the necessary drying and frictions in order to set up suitable reactions.

Stimulants, cordials and anodynes for children in any hygienic or physiological point of view are simply abominable. Under this head should be included all forms of ardent spirits, tea, coffee, opium and tobacco; as these are the articles which the present usages of our higher civilization are most likely to bring into play, either as a matter of sensuous gratification or medicinally in the treatment of disease. Whatever may be said in favor of adult indulgence in these articles, either physiologically or therapeutically, I have no hesitation in condemning unqualifiedly their use for children, whether in health or disease. The spectacle of a mother dividing her tea, or coffee, or a father his toddy with a young child is the case over again of "trusting children with edged tools." There is much reason to fear that the morbid and excessive appetite for these articles in adult life has its origin in these small beginnings; to say nothing of the baleful influence to the health of tender childhood from such premature indulgence in articles so unsuited to these volatile, sensitive little ones. Opiates in the cure or palliation of disease are open to much the same or even greater objection, and should only be resorted to in exceptional cases, or under the pressure of a strong necessity.

Amusements.—Pretty much all that need be said under the head of amusements has already been recited under the head of exercise. The great point in either exercise or amusements to children is free, abundant, incessant motion. Amusements then must be motile and physical, and not sedentary or intellectual.

To these ends there should be ever at hand for their use, marbles, tops, hoops, the hobby horse, swings, battledoor, shuttle-cock, the simple dance; with unlimited latitude in the vocal direction as to use of lungs and throat, in clatter, song and the simpler forms of recitation.

Education.—We come last, but not least of all, to speak of books, schools, brain culture. I have not the least hesitation in placing my most unqualified censure on all systematic or scholastic efforts in these directions prior to the age of ten years. Let the first ten years of life be given to the culture of arms, legs, lungs, bone and muscle, as the best guarantee for that most desirable state of "a sound mind in a sound body," so essential in after-life in battling with the rivalries, storms, and trials which must sooner or later surely be encountered. Toys and sports may be so ingeniously devised in the display of letters, characters, words and numbers, as to give incidentally certain primitive notions and ideas in the intellectual and academic direction; but let this be incidental and occasional rather than direct and persistent. A child with large brain and small legs, prematurely active mind, and ever toiling and poring over books, grows up, to be a helpless, learned booby, neither happy or useful within himself, or creditable to the indiscreet, ambitious parents, who have borne and reared him. I have many times been shocked with the heartless or thoughtless announcement by a mother that she sent her children to school, probably through heat, or rain, or cold, just to keep them out of mischief, and out of the way. It would be hard to determine which involves the greater scandal and crime,—the motive or the action.

In conclusion. If I have seemed to be somewhat minute and tedious in treating the subject of this chapter, my justification is, the very great importance I attach to the subject as one of the noblest and most elevated modes of usefulness on the part of the medical man, and as one so largely involving the peace and happiness of those who may claim or solicit his advice and assistance, whether as a means of preserving health or in the cure of disease.

The subject has ever been one of zeal and enthusiasm with me; as I have much more confidence in my ability to preserve health and prevent disease than in any therapeutic plan for the restoration of that inestimable boon, good health, so often forfeited by palpable violations of the plainest and most evident laws of our being.

FIRST MONTH OF INFANCY.

TAKING the infant in hand from the moment of its extrusion from the uterus, we propose, under the above caption, to give in detail directions for its proper care, both hygienic and therapeutic, during a period of life marked by much tenderness, susceptibility, and helplessness.

The process of elaborate bathing, and adornment in the way of dress, now so long in vogue for the new-born as to have the sanction of custom, has a quality of the grotesque and ludicrous bordering on barbarity and cruelty. Physicians have been content to leave these matters largely in the hands of nurses, midwives, and silly mothers, whose self-conceit, in many instances, is only equalled by their ignorance. Where self-conceit and ignorance are in authority it is exceedingly difficult to introduce any quality of reform. Nevertheless, we have some radical changes to propose, and hope to have the co-operation of the profession in carrying them into practice. We hope in the near future to witness the disuse of the useless clumsy dressings for the umbilical cord, the time-honored "belly band," the elaborate finery in the way of apparel, and the acrid soapsuds bath; none of which contribute to the comfort or safety of the infant; to the contrary, in many instances, do much to produce pain, wakefulness, and general state of unrest.

As a rule the CORD should not be divided until pulsation ceases. The division should be made at a point about three inches distant from the abdominal surface. If the division could

be conveniently made with some simple form of *ecraseur*, the ligature might safely be dispensed with. We think the risk or probability of hæmorrhage greatly overrated if division be made with the bistoury or sharp scissors. If the ligature be used the cord should be cut first and well stripped, so as to remove the local blood before ligating. We cannot see the advantage in any wrapping or envelope to the cord. To the contrary, as the process of separation is one of drying—desiccation—it would seem that the usual wrapping, by excluding the atmospheric contact and evaporation, should hinder, retard, rather than promote matters. Ligate a large plump cord, with all its local blood retained, wrap it in rags well smeared with lard, apply over all the "bellyband," and in two or three days of hot weather you shall in many instances have a state of fetor sufficient to attract a flock of buzzards, with the additional drawback of non-separation for five to seven days.

The **Bellyband** is a hoary nuisance. If applied closely enough to do any supposed good it is sure to do harm, by hindering respiration and abdominal circulation. Its supposed necessity for the prevention of umbilical hernia is about as plausible as a proposition would be to apply a truss to prevent the possibility of inguinal hernia. Nature, as a rule, with rare exceptions, does not make such clumsy blunders as to justify any such impertinent tinkering with her work. How unfrequently do we see umbilical hernia in the lower animals, for which the cord is neither cut, ligated, or bellybanded. Of course in case of threatened or real hernia suitable pressure or bandage should have place. To repeat: cut the cord, strip out its local blood, ligate it; but do not hinder or retard the natural process of desiccation by the use of rags, lint, lard, or the bellyband; and separation will be accomplished in about two-thirds of the usual time, with little or no risk from either fungoid surface or excavating ulcers in the site of the umbilicus.

Bath.—The usual process of scrubbing the newly born infant for a half hour in hot soapsuds, is altogether a piece of intoler-

able barbarity and cruelty. In many instances the exhaustion, reduced temperature, and excoriation of surface are so great that sleep, reaction, and anything like quietude and comfort, are not accomplished for twelve to twenty-four hours. The bath is protracted too long; the soap is worse than useless. If the child have a tidy and clean appearance, as many do, the soap is unnecessary; the untidy abundant coagulum found on the skin in many cases is not removed by the soap.

Prepare the child for the bath by smearing the entire cutaneous surface with sweet lard, olive oil, or vasaline, which articles are soothing and comforting to the sensitive, tender surface, and have the quality or power of dissolving and detaching the untidy coagulum just mentioned. Then with the head in the hand, held above the water, submerge the entire body and extremities in moderately warm water, and rub briskly with a soft rag or sponge for the space of abont a minute; remove and dry hastily in a soft warm envelope, not allowing exposure of surface while drying.

Dressing.—This should consist of just two articles or items, a buttock napkin and a cotton canton-flannel gown fitting closely at the neck, with length of sleeves to fall below the hands, and skirt to fall below the feet. The buttock napkin should be soft and spongy, with the double object of receiving and retaining the excretions, and not making harsh or uncomfortable pressure on the parts. Now this entire process of oiling, bathing, drying, and dressing, in expert nimble hands, ought to be completed in seven to ten minutes, instead of the usual bungling elaboration of from thirty to sixty minutes. The course of management here indicated should be repeated daily for one month. In it we have the very important points, expedition, efficiency, comfort, and non-constraint of the entire body in all its parts. Under this simple and rational *regime*, colic, crying, and wakefulness, will be found the exception, and sleep, growth, quiet, and comfort, the rule.

The child should be applied to the breast four hours after birth, and re-applied at intervals of four hours, until milk flow, and then every two hours. The little stranger should positively

not "receive company," or be "an exhibition," for the month. During the first month the child should be encouraged to sleep almost constantly, which it will readily and naturally do if not tortured with protracted soapsuds baths, elaborate finery, and constraint of complex apparel, the silly vain show of being an exhibition to display its smartness and handsome parts, and to gratify the foolish inquisition of neighbors as to whom it may or may not resemble. As a rule, it should have no food from the start other than that obtained from the mother's breast.

Finally, on this branch of the subject: In case of great exhaustion, feebleness, or debility, from premature birth, violent protracted labor, or other cause, it may be prudent to wrap the child in soft cotton flannel, and allow it to remain perfectly quiet for twelve or twenty-four hours before attempting anything in the way of bath or dressing.

Stool.—During the first forty-eight hours of infantile life there should be considerable intestinal activity, in order to get rid of the *Meconium*, a dark, viscid, intestinal accumulation, which seems to take place during the last months of uterine life. This activity usually sets up spontaneously within the first six or eight hours after birth. If delayed for twenty-four hours the child usually gives evidence of distress, by restlessness, disturbed sleep, or crying. If delayed for forty-eight hours, in addition to the foregoing indications, there will most likely be a jaundiced tinge of the skin. In most cases of delay very simple expedients will be sufficient to set matters in order. For instance, a bit of soap as large as a medium pea, moistened and thrust into the anus, will in many cases be sufficient to set matters agoing. One ounce of warm salt water thrown from a syringe into the rectum may do very well. Where these expedients fail I have seen a teaspoonful of pure olive oil given by the mouth answer a good purpose. In cases of partial but defective intestinal action, with tardy dry passage, Nux vomica at the third[x] will be indicated in grain doses of the trituration every six hours. Dry, tardy stool, with defect as to bile, with sallow skin, will call for Podophyllum. Very

black acrid stool with pain may require Mercurius. Default of stool from imperforate anus will require the advice and assistance of the surgeon.

Urine.—A specially active state of the kidneys and bladder in the first forty-eight hours is necessary to the welfare of the child. Default in this respect, if the trouble be in the kidneys, will set up alarming uræmic symptoms at once. If the fault be from excretory defect on the part of the bladder or urethra the indications will be those of pain manifested by unrest, crying, and sleeplessness. This latter condition is sometimes the result of occlusion from adhesion of the opposing surfaces of the meatus urinarius from the presence of dried mucus, the remedy for which state of matters is equally apparent and easy of adoption. In any case of delay, inquisition with a view to such a probable condition of parts should always be made. Should the fault seem to be with the kidneys we should resort to such excellent remedies as Apis, Cantharis, Pulsatilla; and should the case be complicated with intestinal torpor the Hydrastis alone, or in alternation with one or another of the three others named, according to special indication, will do good service. In many cases seeming to consist in slight torpor or functional inactivity generally, on the part of the urinary apparatus, two domestic remedies do well, parsley-root infusion, water-melon seed infusion. In this class of cases the Spiritus nitri dulcis does well.

"Sugar-loafed Head."—In labors protracted by disproportion of parts or from unyielding soft parts of the mother, the child's head may present at time of birth an elongation giving rise to a grotesque disfigurement, much to the horror and distress of the mother, who supposes her child to be a natural-born idiot. This disfigurement is sometimes the result of a change from pressure on the cranial contents. In others the appearance is produced by œdematous or sanguinolent effusion beneath the scalp at the cranial vertex, giving rise to what is known as "blood tumor." These accidents are more noticeable from their temporary impairment of the child's appearance, than from any

quality of seriousness or peril. They usually subside spontaneously within the first week and about as quickly without treatment as with it. The nurse and mother should be cautioned against attempts at remoulding, as harm might result from such indiscreet, unnecessary attempts.

Mammary Swelling.—Newly born infants sometimes suffer from swelling and even severe inflammation of the mammary glands, one or both. The parts become hot, tender to the touch, much swollen, and in violent cases suppurate. The cause of such an affection in parts not yet the subject of function or any known injury is not at all apparent.

Treatment.—Severe fever and constitutional distress, if present, will call for Aconite. The local condition of parts after Aconite will require Belladonna alone or in alternation with Mercurius. In the early or incipient stage the local application of Camphorated vaseline will contribute to disperse the symptoms. Should suppuration be inevitable, palliate the distress of parts by the application of a flaxseed-meal poultice until the pus nears the surface, when the bistoury will be needed to relieve the parts of the pent-up matter.

Erythema.—Infantile erythema is characterized at the outset by simple excess of redness of the skin. There is at first neither swelling or increase of sensibility; but as the symptoms make progress the redness becomes scarlet, the skin thickens, sensibility becomes morbid, abrasion of the cuticle occurs, and, in obstinate, neglected or mismanaged cases, the cutaneous tissue becomes involved, in the shape of ulcerations and discharges, to the very great disfigurement and discomfort of the parts. The disease usually attacks the creases about the neck of fat children, the armpits, groins, buttocks and anal region. Hot weather, neglect to bathe, frictions from clothing, acrid urinary and fecal discharges, are set down as the usual cases of the trouble. In many cases I think the symptoms are set up from too much bathing and friction with soap and water. Irritations from rough, starched, tight-fitting clothes come in to play an important part. If infants were oiled and bathed and

dressed as directed in the early part of this chapter, I opine we should see much less of this difficulty. The most troublesome and difficult form of this disease is that which locates about the buttocks, groins and anal region. Here the disease is set up by oft-repeated flux of acrid secretions from the bladder and bowels; and the selfsame condition of things which may serve as a cause to start the symptoms acts with much greater force on the already inflamed and sensitive surfaces, to keep up and aggravate the condition of parts. The disease is, in the main, purely local, and except in violent and protracted cases, where from constant pain and irritation resulting in loss of sleep and quietude, so essential to infantile digestion and nutrition, there will be little or no constitutional disturbance.

Treatment.—The disease being local and simple, will require little else than local attention for its relief. Those persons having the domestic management of these cases, usually do the child a great hurt by too much bathing effort to keep the parts clean. My experience is, that just bathing and sponging enough to keep the parts from being positively loathsome and untidy, will be far better. An important point to be gained in the management is to furnish a sort of artificial coating of a soft and lubricating nature. For this purpose four parts of the fluid extract of Hydrastis canadensis to one part of pure Glycerin as a lotion will answer a good purpose. It may be applied with any soft brush or bit of soft linen, and should be repeated every two or three hours. Dossils of lint may be saturated with the lotion and placed between opposing surfaces. A watery solution of Tannin and powdered Opium, with the addition of one part of Glycerin to four of the solution, will be found a good change from the first-named application, when change may be called for. Powdering the parts with Hydrastin sometimes does well. Bear in mind that no corrosive or harsh form of application in these cases will ever do any good, but rather harm. Should protracted and violent distress of this kind involve the general health, suitable treatment by internal remedies must be sought in the use of Belladonna, Arsenicum, Mercurius, or Sulphur, according to indications.

Snuffles.—This symptom, or group of symptoms, consists in a noisy, difficult, stertorous breathing, from obstruction of the nasal passages. The obstruction consists mainly in a dry intumescence of the mucous membrane; in some cases, in addition to the thickened membrane, matters are aggravated by the presence of a thick, dry, tenacious mucus. The difficulty, in many cases, presents itself at or immediately after birth; so the child may be said to be born with a "cold in the head." It is usually obstinate, lasting from four to six or eight weeks. It is a matter of very great personal inconvenience to the child, especially while nursing or sleeping. It can only breathe through the open mouth, or with very much difficulty through the nose. It nurses only so long at a time as it can hold the breath, so that it nurses and breathes alternately. It can only sleep with the mouth open, but as the sleep deepens the mouth falls shut, which at once disturbs the sleep, so that it may be said to sleep and breathe alternately.

The opposite conditions of plumpness or leanness are alike liable to the trouble. Infants thus afflicted may be otherwise in excellent health, except when the condition is the result of specific taint.

The CAUSE, when not the result of specific taint, is not very apparent. Possibly excessive dryness or moisture of the atmosphere, or particles of dust freely floating in the air, may contribute their influence in the way of causation and duration of the disease. The setting up of a free discharge usually works prompt relief.

The PROGNOSIS is favorable; the case will get well ultimately.

Treatment.—Thorough lubrication of the parts internally and externally with any simple oleaginous and demulcent application, with Nux Vomica, taken three times per day, I have found the most satisfactory mode of management. The domestic use of the fresh "goose-grease" is in many instances entirely satisfactory as a local application.

Trismus Nascentium — Eclampsia Neonatorum. — These two diseases, of course, are not identical; but as they each

usually occur within the first ten days of infantile life, probably depend upon the same etiological agents, involve much the same morbid condition of the cerebro-spinal apparatus, have many symptoms in common, and usually present even their differential symptoms simultaneously or in succession, I have thought it might facilitate a convenient study of the whole subject thus to group the two forms of disease under one head.

Trismus nascentium, as such, and uncomplicated with other spastic and convulsive symptoms, is a rare form of disease. In a somewhat varied and protracted professional experience I do not now remember ever to have seen a case. West, the British practitioner and author, of large and long experience in both private and hospital practice, had seen only four cases up to the latest edition of his work on diseases of children.

The following description of this singular, violent, and fatal disease may be found at page 158 of *West's Diseases of Infancy and Childhood:* "The disease may come on within twelve hours after birth, or, on the other hand, may not occur for several days; but it very rarely makes its appearance after the lapse of a week. I once saw it attack a child fifteen hours after its birth, but in the other case it came on upon the fifth day, in one instance, and the sixth in the other two. Though it runs a rapid course, yet its onset is gradual; one of the first things that attracts the mother's notice being, in general, that the child does not take the breast when put to it, but utters a whimpering cry, and if the mouth is then examined, it will be found more or less firmly fixed. Sometimes general convulsions come on suddenly, and usher in other symptoms, but more frequently follow than precede the trismus. When fully developed, the fits, which come on in paroxysms, are ushered in by a screech, or are attended by some impairment of the respiration, and during their continuance the whole surface becomes livid. The hands are strongly clenched, the feet forcibly flexed on the ankles, and the toes bent, and remain so during the fit; and the trunk is turned back in a condition of opisthotonos. The mouth is generally drawn

slightly open, and the lower jaw firmly fixed. When the fit subsides, the muscles do not become generally relaxed, but the child still lies with its hands clenched and its thumbs drawn into the palm, the legs being generally crossed, and the great toe separated widely from the others, while the head is thrown back, and the opisthotonos continues, though in a diminished degree. The condition of the mouth is peculiar and characteristic. The jaws at first are slightly open, and the corners of the mouth drawn downwards and backwards; but as the disease advances the jaws become quite closed, the corners of the mouth even more drawn down, and the lips firmly compressed against the gums. The power of sucking is early lost, but sometimes the child continues able to swallow; at length, however, it accomplishes this with very great difficulty, a convulsion sometimes following the attempt, while even the fluid that had apparently been swallowed is for the most part regurgitated. The child dies either during the same paroxysm of convulsions, or, seeming much exhausted, it sinks into a comatose condition, and so expires. There are few affections that run so fearfully and rapidly a course as this, its fatal termination almost always taking place within thirty-six—often within twenty-four—hours from the appearance of the first symptoms."

The eclampsia neonatorum, or infantile spasms are, according to my experience, of far more frequent occurrence. The symptoms usually begin in a very slight or scarcely appreciable form, such as rolling of the eyes, slight contortions of the features, and slight rigidity of the upper and lower extremities; more or less arrest of respiration, lividity of the face; each and all growing more and more decided till by the end of twenty-four hours they have developed into violent tonic or clonic spasms, the scene winding up in convulsions; general rigidity of the entire body; opisthotonos; and death about forty-eight hours from the time of attack.

The cause or causes of infantile trismus and eclampsia have not been satisfactorily determined. Injury or hurt to the spine

and brain during violent labor, or some blow or rough handling at and after birth, have been offered as plausible surmises. But as infants have spasms after short, easy labors, and when no subsequent hurt or accident can be detected, these plausible surmises fall to the ground. West thinks it sometimes attributable to dirt and bad ventilation; but as we habitually see so much dirt and bad ventilation, and so infrequently a case of infantile spasms, this last surmise does not seem to fare much better than the first.

Treatment.—I am sorry to say that our ignorance as to the cause of these two diseases is about as dense and helpless as our ability to cure. Ignatia, Nux vom., Stramonium, Belladonna, ought to give relief according to symptomatology, but they do not. I remember once giving a case of eclampsia 10-drop doses of brandy at short intervals for several hours with apparent partial relief; but it, with all the other cases I have ever seen, died in two or three days.

BRAIN FEVER.

THE frequency, violence, and peril of diseases of the brain and spine and their investing membranes, in infancy and childhood, together with the difficulties of diagnosis and treatment, render the subject one of great importance in any system of pædology.

The violence, frequency and peril seem to depend upon the great susceptibility of the parts and tissues to morbific influences, together with their great functional importance to the vital economy of the entire system. Diagnosis is much hindered by the tender age of the patient, delirium, or stupor. Then, too, auscultation and percussion, so available in the diseased condition of other cavities, is of little avail here. The rapidity and violence of progress in the symptoms leave us but a limited space of time or opportunity in which to do that which "were better done if quickly done." A few hours' delay may result in such grave pathological conditions as permanent congestion, extravasation,

and effusion immediately, with hardening, softening, or thickening more remotely. Some of the authorities do not recognize brain fever as a distinct form of disease in any system of classification.

There would seem to be precisely the same grounds for a recognition of cerebral or brain fever as a separate, distinct form of disease, as there is for recognition of gastric, lung, and intestinal fevers. Of course, every variety of brain inflammation has its fever to a greater or less degree; but we do not think it true that every form of brain fever necessarily involves inflammation. Should the fever be long unrelieved or of great violence, the transition will be easy and sure to a state of inflammation. But the suddenness of the onset after a state of the very best health, the quickness and completeness of relief under appropriate treatment, followed by none of the sequelæ or consequences of inflammation to all appearance, would seem to justify the conclusion that we may have a state of fever from certain causes which may either exalt or depress the sensibility of the brain and its membranes, without those concomitants that go to make up a phlogistic condition of the parts.

The symptoms, when not accompanied by inflammation, usually come on suddenly, without premonition or warning, and in this respect differ markedly from fever of inflammation of the parts. The child may seem pretty well, and take its morning meal heartily and eagerly. For two or three hours preceding the more marked symptoms it seems languid, has cool extremities, yawns, is fretful, disinclined to exercise, and probably falls asleep to awaken in the midst of violent fever, characterized by hot skin, flushed face, redness of the eyes, thirst, starting, fearfulness, cool extremities, dilated or contracted pupils,—contracted, if there be active hyperæmia; dilated, if the tendency be towards passive congestion. If the state of the circulation be one of active hyperæmia, delirium, with or without convulsions, will likely be a prominent symptom. The urine is scanty and high-colored, is passed tardily and with a shudder; the bowels likely to be constipated. This

state of active cerebral circulation will be one of great vehemence, as indicated by throbbing carotids, throbbing temporal arteries, jutted veins of the head and face, great heat of the whole head and face, contracted pupils and excessive sensibility to light, grating teeth, starting from any sudden motion or sharp noise, thumbs drawn into the palmar surface, with strong tendency to convulsions and a wakeful vigilance. Or precisely an opposite state of cerebral circulation may obtain,—that of congestion. Under this state of the brain the child sleeps heavily, profoundly; breathes rapidly, snores much, almost amounting to a stertor; is aroused with much difficulty; the face and head are bathed in a hot perspiration; eyes half closed, pupils dilated and insensible to light; noises and motions are unheeded. Owing to great somnolence the child takes food, drink, or medicine with reluctance and difficulty. Whether the condition of the brain be one of active hyperæmia or passive congestion there is usually great rapidity of pulse; frequently such tumult and rapidity that no satisfactory count can be made. Ordinarily there is much increase of frequency in respiration, with rapid motion or playing of the alæ nasi.

Cause.—Strong mental and moral emotions and activities,—as great grief, excessive and sudden delight, too much application to books or other mental strain, in connection with dietetic excess or irregularities. Such causes are prolific of brain trouble in adult life. The chances and probabilities of their efficiency in the production of disease when brought to bear on the supersensitive, undeveloped brain of tender childhood are greatly enhanced. In certain localities, latitudes, and seasons the malarial poison would seem to be among the causes of this disease. Children who cut teeth rapidly and with difficulty seem prone to this form of trouble. Children with large brain, and very active, precocious minds, are strongly inclined to brain fevers on slight provocation. The intricate sympathy and intercommunication between the stomach and brain, through the great par vagum, make gastric excesses and disorders a frequent source of brain trouble. Trau-

matic violence, in the way of blows or falls affecting the brain, may give rise to fever without inflammation.

Diagnosis.—The differential diagnosis between brain fever and brain inflammation will appear in a subsequent place when treating of the latter disease.

Prognosis in this disease is by no means always favorable, as the symptoms may make rapid progress to a violent and fatal inflammation, or an obstinate and equally fatal congestion.

Treatment.—Aconite, Belladonna, Gelseminum, Veratrum viride, and the head DOUCHE, make our chief resource in the management of this disease. Great heat, with full strong pulse and dry skin, will call for Aconite. Fierce delirium, with great sensibility to light and noise, will require Belladonna. Cases with no great vehemence of symptoms, and which Aconite and Belladonna do not seem to relieve, may safely be trusted to Gelseminum, especially where there is much heat and pain in the occipital region. But of all the remedies and appliances in this disease I trust nothing with so much confidence as the Veratrum viride with the head douche. They seem to go admirably together. The Veratrum is indispensable under great rapidity of pulse and any tendency to convulsions. It seems to be suited alike to the active hyperæmia or passive congestion of the brain; great rapidity of pulse, with or without convulsive tendency, being the leading indication. Give it low, and repeat the dose at short intervals, say every half hour, until some appreciable impression shall have been made upon the pulse. For very young children give drop doses of the 1x dilution. Older children, with urgent demand for relief, may have 5 drops mother tincture in ten teaspoonfuls of water, and take a teaspoonful every half hour. Should stupor or convulsions prevent its administration by the mouth, give two to five drops mother tincture by enema, and repeat at intervals of one to two hours until advantage shall have been gained. In this disease the febrifuge and refrigerating influence of constant evaporation about the head is of the very first importance. To this end let a continuous stream

of water from a pitcher fall, at a distance of two to four feet, upon the back of the child's head for about two minutes, to be repeated at intervals of one to two hours, according to results and the demands of the case. The temperature of the water may range anywhere from cold to cool, tepid, warm, or hot, as may seem most agreeable or least disagreeable to the patient. The advantage in the DOUCHE seems to consist mainly in the rapid absorption of heat during evaporation. There seems in some way to be an advantage gained by the fall of the current from a considerable height in a continuous stream on the back of the head, over and above any process of wet cloths or applications of water by sponging. Should the skin be dry and very hot, let the water be cold. Should there be less heat, with perspirable state of the head and face, let the water be tepid or warm. Should the head dry rapidly, it may be sponged frequently during intervals between DOUCHES. In case of intestinal accumulations, administer a full enema of warm salt water. Should there be grounds to suspect trouble from crude, indigestible, or excessive food in the stomach, do not hesitate to give a brisk emetic, with a view of removing such source of offence. Should the symptoms show signs of periodical remission or intermission, Gelseminum, Muriate of Ammonia, or Sulphate Quinine, may make an important resource.

ENCEPHALITIS.

FOLLOWING the lead of such excellent authority as Watson in matters of classification, pathology, and symptoms, I shall treat under this caption inflammation of the brain and its investing membranes; the term *meningitis* being specially applicable to inflammation of the latter, and *cerebritis* to that of the former. Many teachers and authors treat them separately, and, as I think, with no practical advantage, but with the tedium of much repetition, resulting in confusion. In truth the distinction is more

easily made in the books or lecture-room than at the bedside, and, when made, lends little or nothing to the ultimate importance, sought in all medical investigation, the cure of the disease. The extreme sensibility, great vascularity, and rapid growth and development of the brain in childhood, render it peculiarly prone to inflammatory affections. The probabilities are that the morbid process usually begins in the investing membranes, and extends by anatomical contiguity and continuity of structure to the brain substance. This view is rendered plausible in the fact that these investing membranes largely furnish protection, circulation, and nutrition to the cerebral mass. Post-mortem examination may reveal much inflammatory result to the membranes, with little or no evidence of disorder to the brain substance; but decided disease results in the brain substance are never found from inflammation without corresponding appearances in the meninges.

Symptoms.—These are much the same as in brain fever, with this important difference, that in brain inflammation the symptoms are rather less pronounced or vehement, and glide in upon their victim somewhat stealthily, and rather insidiously. As in most other decided and serious inflammations fever is a prominent feature in brain inflammations. It may or may not be preceded by chilliness. In the outset there is usually an unbalanced state of heat and circulation, as indicated by cool extremities and hot face and head. There is much acceleration of pulse, with a hard, resisting thrill and bound, great sensibility to light, contracted pupils, redness of the eyes; much disposition to start from any quick neighboring motions or sounds; great fear, as from a feeling of falling; acute pain in the frontal, occipital, or vertex region of the head, sometimes over the entire cephalic region; either very vigilant and wakeful, or profoundly soporose for a time, with intervals of wakefulness and restlessness and shrieking. In nearly all cases delirium is a prominent symptom. If delirium be a prominent feature, the tendency to convulsions will be strong and threatening. Usually there is a confined state of the bowels,

with scanty, highly colored urine, which is passed frequently with a sort of shudder, and exhibits strong ammoniacal odor. The tongue early acquires a thick, whitish fur. There is strong thirst, the full gratification of which, by hearty, eager drinking, may be followed by vomiting. Should delirium and convulsion of violent quality be prominent factors in a given case, or should there be profound stupor, with great insensibility to light, touch, and sound, matters usually progress rapidly from bad to worse, and terminate in paralysis of the brain, with excessive motion of an arm and leg on one side, with an apparent paralysis of the corresponding opposite members, the drama ending in death in twenty-four to sixty or eighty hours. The strong arterial activity in the neck and temples, with the engorged venous circulation of the parts, would seem to indicate that a demise in these violent cases of short duration is from hæmorrhagic extravasation into the meningeal cavities, as well as the infiltration of blood into the brain substance. In cases of less vehemence and longer duration, but which terminate fatally, death is probably attributable to hydropic effusion into the meningeal sacs and into the brain ventricles. In children with open fontanelles there is much throbbing, with strong effort at protrusion, as if the volume of the parts within were in disproportion to the containing cavity. The latter days of these more protracted cases are usually attended by great pallor of the face, half-open, glazed, highly injected eyes, with almost total insensibility to surrounding influences or stimuli. Cases of brain inflammation, which must ultimately terminate fatally, but which do not so terminate within sixty or eighty hours after the onset, in the absence of violent convulsions, may fall into a sort of stupor or coma, and so "drag their slow length along" for six, eight, or ten long weary days and nights, after you shall have felt authorized to decide the case utterly hopeless. In this condition of matters the functions of respiration and circulation are almost the only ones performed, and even these in a feeble and indistinct manner. Under this condition of painful suspense, if you act frankly with the parents in the ex-

pression of an adverse prognosis, you will generally get yourself dismissed from your case, as a penalty for your frankness, in behalf of some professional neighbor, whose officious, enthusiastic friends are ready to give assurance that "while there is life there is hope." Sometimes two or three sets of new medical advisers will in turn take a hand at such a case before death takes place, and all after any honest, sensible practitioner should, with entire propriety, pronounce the case hopeless.

Causes.—In the simple, non-tubercular form of encephalitis, now in hand, the causes are much the same as those which induce brain fever, these causes simply acting somewhat more persistently, so as to add a state of inflammation to that fever. Those causes known as traumatic play an important part in the induction of this disease. Children in their heedless reckless mode of life get bruises and injuries about the head from blows and falls. A peculiarity about brain inflammation from traumatic causes is, that the resulting inflammation may not take place for seven to ten days after the receipt of the traumatic hurt. In the meantime the hurt or accident may have escaped the recollection of the family, or may have been known only to the child and its playmates, who, fearing the consequences of culpability, make no revelation on the subject whatever. Protracted exposure to intense heat of midday sunshine frequently operates as a cause. Severe mental, and moral, and social emotions are prolific causes, when brought to bear upon a susceptible and sensitive organization, as grief or delight, violent fright, severe protracted study; protracted gastric disorders, in which there happens to be severe brain sympathy, also severe teething, whooping-cough, worms, exhausting protracted bowel disorder in the shape of diarrhœa. I believe I have neglected to say in the proper place that inflammation of the membranes is supposed to be characterized by a sharp intense pain, fierce active delirium, sleepless vigilance, starting, nervousness, and convulsions; while inflammation of the brain substance will have a dull heavy aching pain, much more tendency to

lethargic stupor and coma, heavy imbecile state of the mental powers, injected eyes, with permanent strabismus.

The *diagnosis* of encephalitis need not ordinarily be difficult or important, as it is readily recognized and only liable to be mistaken for brain fever, the practical management of which is much the same as that for inflammation of the parts; the prognosis in a case of fever being much more favorable than in one of inflammation.

Prognosis.—You should be much on your guard in giving anything like a favorable prognosis in this disease. The usual violence of the symptoms, involving tissues of so much delicacy and of the very first vital importance, always render the disease of the very gravest import, and especially if any considerable length of time shall have elapsed before the adoption of appropriate treatment. You should always advise those having the care of the child that the peril is great, and a successful result can only be hoped for under a state of the utmost diligence and co-operation of all concerned in the management.

Post-mortem appearances are much the same as with inflammation in other serous cavities and tissues. The membranes are studded with surcharged bloodvessels; their surfaces coated over with effused serum and lymph. If the inflammation have been violent and short, lymph will predominate; if less violent and of longer duration, the chances are that hydropic or serous effusion will be in the ascendant. The substance of the brain is a little less prone to exhibit pathological appearances, and in short cases, though the termination be fatal, post-mortem appearances may be sparse,—some change as to consistency, either to softness or hardness, most probably the latter, with hyperæmic traces in the shape of vascular engorgement with more or less of sanguinolent extravasation. Should there be hydropic deposit it will be found, so far as the brain substance may be concerned, in the ventricles, and chiefly in the right and left of these cavities. Abscesses may be found, but as a rule are rare, as a fatal result is usually attained short of this result in inflammation. Gangrene, under traumatic

injuries of an extensive and violent character, might be possible, but not probable, for the same reason.

The usual modes of death in this disease are by convulsions or coma. Convulsions sometimes give the first fatal warning notes of a drama that winds up in a state of protracted profound coma. In other instances coma comes on stealthily, without convulsions, and winds up the case slowly and in almost imperceptible stages of progress after a weary tedium of three, four, or six days.

Treatment.—The treatment is much the same as for inflammation in other serous splanchnic cavities. In the very onset Aconite will claim our attention as one of our best remedies in serous inflammation. One of the most astute practitioners of homœopathy I have ever known gave it to me as his opinion that the arena of serous inflammation furnished Aconite its chief opportunity for therapeutic triumph. I have nothing special to say as to mode of administration, except that it ought to be given early in the disease, at from the 3^x to the 6^x; should be given alone and at intervals of about two hours. Belladonna will be indicated by a fierce, wild delirium, with or without pain in the frontal and temporal regions with open pupils. Closed pupils with much sensibility to light will call for Belladonna. Much pain in the occipital region, with occasional remissions in the fever, will call for Gelseminum. This peculiar occipital pain extending into the cervical region will indicate this last remedy, with or without the fever. Digitalis may be indicated by tendency to delirium and sleeplessness, with frequent irregular pulse. Profound coma, with contracted pupils and slow laboring pulse, should be treated with opium. Advanced stages of the disease, where there is a tendency to oscillate between coma and convulsions, will require the Helleborus niger. The head *douche* should be made to play an important part in the treatment. Should the skin be warm, or hot and perspirable, let the water be warm. Should the skin be hot and dry, let it be cold, cool, or tepid. It should fall in a continuous stream from a pitcher at a distance of two to four feet on the back of the head, the frontal region of the head

resting in the hand of an assistant, with a wide tub below to catch the water as it falls from the head. The *douche* should be repeated at intervals of one hour, until some effect shall have been attained. A thin linen compress should be applied constantly over the entire head, to be frequently wet in warm water, so as to keep up constant evaporation, as a gentle equable means of refrigeration, and for the soothing, emollient influences of warmth and moisture. The old heroical mode of packing the scalp in bags of pounded ice, is, I think, now passing, and very deservedly, into disuse. Where the child has any consciousness or sensibility, it is cruel and disagreeable, and may do much harm by its depressing influence both generally and locally. I know of no class of patients who ought to be more profoundly grateful to homœopathic practice than those with this disease, escaping, as they do, the horrors of shaven heads, ice-bags, blisters, scarificators, leeches, mercurial purges, etc., etc. I know of no disease in which it is so important to have a "neck-and-neck" start between the disease and treatment. If the symptoms get so far the start of the treatment as to furnish what is known as certain "products of inflammation," in the shape of effused lymph, effused serum, extravasated blood, the chances of successful treatment rapidly diminish. In cavities of the body with an excretory function and outlet these "products of inflammation" may take up the line of march along with the excretory products, and thus be gotten rid of with at least palliative advantages to the part under disease. But to the cavity of the cranium and ventricles of the brain there is no such outlet in behalf of a cavity always normally full from an exact adaptation of the contained parts to the containing cavity. Hence the slightest additions to the cranial cavity in the way of diseased products, which can only be taken up, if ever taken up at all, by the slow, imperceptible process of absorption, act fearfully by compression upon healthful cerebral function.

CEREBRO-SPINAL MENINGITIS.

This is a violent inflammatory affection of the membranes of the brain and spinal cord, which does not seem to have prevailed, or at least to have received special recognition, until about the beginning of the present century. It has rarely prevailed in a sporadic, but usually in an endemic or epidemic form. From about 1807 to 1820 it prevailed somewhat extensively in France and Ireland. From 1800 to the present time it has prevailed in the American States, and at times with great violence and fatality, as an epidemic, in New York, Ohio, Indiana, and Tennessee. In the American prevalence it has shown a decided preference for the malarial localities. Certain mottled, blotchy, or petechial, cutaneous appearances, which have not been very uniform either as to the fact or character of appearance, have given the disease the popular name of Spotted Fever. Many well-marked cases have not presented these cutaneous appearances at all. In the Irish epidemics the disease was chiefly confined to boys from ten to fifteen years of age. The French epidemic chiefly attacked recent young military recruits. In epidemics of this country the disease has been much confined to children from three to twelve years of age, and has not discriminated in favor of one sex or the other. It seems rarely to attack adults of the middle or advanced periods of life.

The *symptoms* usually come on suddenly, and with violence from the start. In some cases they rapidly progress, and reach a fatal termination in twelve to fifteen hours. In the case of five Irish lads, who were attacked suddenly and with violence, all seemed well and ate supper heartily, and seemed entirely well until very shortly before the well-marked symptoms set in. Whether the symptoms begin mildly, and with premonitory or preliminary ones, or with abrupt suddenness, the immediate tendency is to spread into a wide range of marked violence, seeming to embrace the functions and activities of the entire cerebro-spinal axis. Post-mortem examinations reveal marked evidences of me-

ningeal inflammation, both in the cerebral cavity and spinal canal. The dura mater has been found less involved than the pia mater and arachnoid. The arachnoid exhibits large, lumpy, and fibrinous exudations, showing in most cases that it has borne the brunt of disease. The pia mater likewise gives evidences of a marked inflammation, but to a less extent than the arachnoid. These appearances are found on the membranes, both in the cranium and spinal canal. Serous effusions are also found. The most decided pathological appearances as inflammatory products are found in the spinal canal. It is not unusual to find pus here. The substance of the brain and spinal marrow has been found singularly exempt from diseased appearances, considering their near and intimate contiguity to parts under such a violent state of disease, and with such manifest diseased products. The disease presents itself under two aspects. In one, there is fever preceded by chilliness, much frequency of pulse, great pain in the head, especially in the cervical and occipital regions; great tenderness to the touch over the head and in the cervical portion of the spine; this excessive sensibility sometimes extending over the entire person, so that either motion or touch produces much distress—a regular state of hyperæsthesia; sleeplessness, slight delirium. In the second or other aspect of this disease the symptoms come on in great violence and suddenness, the head is drawn back in a fixed attitude, tetanoid and convulsive rigidity of the muscular system, especially of the neck, besottedness of the mental and emotional functions, strong tendency to coma, pulse at 45 to 50, general arrest of excretory function, and death in fifteen to thirty hours.

In all cases of this disease a prominent source of distress to patients with consciousness is violent occipital and cervical pain. In most cases the muscles of the posterior cervical region rigidly contract and draw the head firmly back. This backward rigidity may extend along the entire spine to the loins and hips, so that if the patient be placed on his back in bed he would only touch the bed at two points of the person, the back of the head and the

hips; a regular state of opisthotonos. If fever be high, with wild, noisy, fierce delirium, the convulsive disorder will be of the clonic kind. If the symptoms be more of the passive, besotted, imbecile quality, any convulsive appearance will be of the tonic kind. An intensely vascular, red, engorged, besotted, motionless state of the eyeballs is a prominent feature in decided forms of this disease. There is nearly always much mental apathy, amounting in many instances to the appearance of profound intoxication from large alcoholic potations. The pulse is variable between extremes of great frequency, with smallness of volume and irregularity of interval, and that of laboring slowness; the extremes as to frequency varying from 40 to 160 beats to the minute. The state of the skin is likewise variable; in some cases much heat, in others but little; sometimes dry, at others much perspiration. Thermometric conditions are not much on record; but if made in the axilla, groins, and mouth and rectum, would probably show much excess of temperature. The appearance of reddish, purplish, mottled blotches on the skin has given the disease the popular cognomen of Spotted Fever. In protracted cases these cutaneous appearances assume the shape of petechiæ, being small and elevated, with a feeling of roughness to the touch like fleabites. Sometimes they look like millet-seed under the skin, and when so the eruption is said to be miliary. These cutaneous appearances cannot be set down as peculiar to this disease, as they are frequently seen in other low, protracted, violent fevers. In case the patient survives the first few days of this fever the sequelæ may be pitiable and deplorable in the extreme. These may be partial paralysis, aphonia, strabismus, blindness, deafness, idiocy, pyæmia, emaciation, incomplete convalescence with great debility. Cases linger under one or more of these states for weeks or months, and induce almost the wish that the patient had died at the outset.

The *cause* of this affection is not well established. It is undoubtedly a zymotic or blood disease. The poison would seem to enter the blood in some way, and then expend its force mainly on the meninges of the brain and spinal marrow, primarily, and

then, secondarily, through organic destruction of these parts, pervade and break down almost any or every function and tissue of the whole system. The disease is rarely sporadic; is nearly always endemic or epidemic; usually the last. Observers have thought the disease shows a proclivity for the malarial tracts or districts of country. Climate nor season do not seem to exert much influence as to time or place of prevalence.

The *diagnostic* symptoms are suddenness and violence of onset, great pain of the head, and especially at the base of the brain, with diffuse sensibility and tenderness of touch over the whole body, early appearance of delirium, convulsions, besottedness, and general prostration, together with the fact of epidemic prevalence. These conditions and circumstances will scarcely mislead us as to the true nature of the case.

Prognosis, except in slight or mild cases, is always to be regarded as unfavorable. As before stated, death may take place in twelve or fifteen hours from date of attack in the case of a child in previous apparent good health. In bad cases the average duration if fatal is two to four days.

Treatment.—This must be well-appointed as to time and quality, or the golden opportunity for cure will be lost amidst the tumultuous violence of symptoms which may, in some cases, do their worst, and snap the brittle thread of life in twelve to fifteen hours from commencement of attack; and even where life is not extinct in so short a time an irreparable hurt may be done to the important organs involved. The three great remedies are Veratrum viride, Gelseminum, Belladonna, for controlling the vehemence and furor with which this disease generally begins. The Veratrum will be indicated by great frequency of pulse, heat of skin, delirium with convulsive tendency. It should be given in drop doses of mother tincture every thirty minutes until some improvement, and then at gradually increasing intervals. The 2d or 3d decimal dilution may be used for very young children. Should there be difficulty of administration by the mouth from delirious resistance, give double or treble the quantity by

enema. If this remedy be well-timed in an early start with the symptoms, I am sure it will prove one of our very best resources in combating a fearful array of symptoms. For flushed face, red eyes, fierce delirium, especially when not relieved by the Veratrum viride, Belladonna will come well into play. For milder forms of the disease, not seeming to call for Veratrum viride, especially where pain in the cervical and occipital region is a prominent symptom, Gelseminum is very trustworthy, and will be found to do good, prompt service. Give mother tincture in two to four drop doses, at intervals of one hour at first, and, after some improvement, at intervals of two to three or four hours, according to urgency of symptoms and state of improvement. Of course very young children would require milder or attenuated preparations. For the besotted, intoxicated form of the disease, with tendency to coma and slow, laboring pulse, attenuated Opium will be the remedy, or at least ought to be; but, unfortunately, nearly all this class or condition of patients die in spite of the best-directed treatment. During the progress of a given case, should there be scantiness of urine and irregular pulse, Digitalis will be the indicated remedy. Where there are indications of approaching or already begun hydropic effusion, as indicated by subsultus tendinum, partial paralysis, feeble action of the heart, pallor of the face, slight convulsive disorder, with a general tendency to hemiplegic location of symptoms, Helleborus niger should be used. Such a condition of symptoms will of course be unpromising, but this will be our most promising remedy. For the pain and rigidity of the occipital and cervical region I think I have derived decided palliative advantage at least from the counterirritant action of a sinapism or a compress out of hot water to the nape of the neck.

The management of the troublesome *sequelæ* likely to arise in this disease will have to be treated according to peculiarity of each case, especially the local management. The general management must be of a supporting nature, in the shape of good nourishing diet, with a moderate allowance of stimulants in the shape

of an "egg dram" or "milk toddy." In this condition the "Hypophosphites" render a valuable service. They do not seem to act medicinally, but rather as nutrients to resupply the wasted brain and muscle energy. They may be given in solution in doses of two to five grains three times per day. "Horsford's Acid Phosphates" make a convenient form of administration for such purposes.

TUBERCULAR MENINGITIS.

This is the "Acute Hydrocephalus" of the books, a disease of much greater frequency than simple encephalitis, and having a mortality rate scarcely equalled by any other disease of infancy, if it but once get fairly the start of appropriate management. It seems a little remarkable that a disease now so well known and easily recognized both by symptoms during life, and well-marked pathological appearances after death, should have received so little satisfactory attention and recognition until about one hundred years ago. Of course, children were known to die of brain disorder, largely characterized by hydropic appearances, as far back as two thousand years ago. But not until about one hundred years ago did the fact come to light, that while these cases died under all the evidence of acute inflammation and its consequences, the first pathological condition or movement was not one of inflammation, but consisted primarily and initiatorily in a certain scrofulous or tuberculous deposit in the meninges at and about the base of the brain. And that predicated upon this primary deposit came softening of the tubercle, with all its inflammatory concomitants and consequences; such as general constitutional distress and impairment, with local softening of the brain and its meninges; extensive hydropic effusion within the encephalic sacs and cavities; muscular paralysis, convulsions, mental imbecility and death. It is, I think, to certain French physicians we are indebted for a knowledge of the true nature of this disease. After

being put on the alert by the skill and diligence of these French physicians, medical men everywhere have held a commendable rivalry with each other in their efforts to throw light on this most interesting subject. The doctrine seems now to be well settled that the disease has its start primarily in a tubercular deposit within the encephalic cavity and tissues, but more especially in the membranes about the base of the brain. These tubercular particles in the main are small, not larger than a pin's head, and many of them smaller, so that when very small the deposit may have the diffuse uniform appearance of infiltration. Probably, as in states of tuberculosis elsewhere in the body, these meningeal tubercles may remain in a state of quiescence until the process of softening shall have been set going by the operation of causes either local or general. But when, as in pulmonary tuberculosis, "softening" begins, inflammation sets up with all its consequences, products and concomitants, in the shape of much general or constitutional distress, with local effusion, softening and compression to the cranial contents. The circumstances which seem to have delayed a correct theory and pathology in this disease, consist in the fact that the deposit, being in small particles, easily escaped casual observation on the cadaver, and that observation on the cadaver did not in the very nature of the case take place until, by the processes of softening, serous effusion and lymphy exudation, the special, primary or initial deposit became so obscured as to escape detection altogether. It is now further well settled that this is peculiarly the disease of childhood between the ages of two and twelve years, with a scrofulous or tubercular diathesis. Children older or younger than these limits may have occasional attacks, but the obnoxious period is within the limits named. The great prevalence of hydropic effusion in this disease has given it the additional name Acute Hydrocephalus. Very many of childhood's diseases have stealthiness and insidiousness as prominent characteristics. In none of them are these peculiarities more strongly or painfully marked than in the disease under consideration The utmost diligence, when coupled with experience, will

not always save us the humiliation of a failure to recognize the earliest approach of symptoms, as it is during this preliminary stage of matters only that we can have any hope to be serviceable in the arrest of this most dangerous group of symptoms.

In reviewing my professional experience I am now satisfied that, in my earlier professional career, I repeatedly treated such cases all the way through to a fatal conclusion without ever suspecting the true nature of the cases. Of course I knew there were brain symptoms, and diagnosed the cases as brain disease or inflammation. But the exact, true nature of the cases never occurred to me at the time. The only consolations for my humiliations are that, until about a hundred years ago, nobody recognized these cases, and when recognized we are in most cases helpless in any resource to stay the progress of the symptoms. I now have in mind three cases of infants at from one to two years of age in which the prominent symptom was vomiting. In each case there seemed absolutely little or nothing to treat but gastric irritability. Of course no food was retained. Pallor of face, with gradual loss of flesh, were the only noticeable symptoms. Probably there were occasional slight flushes of the cheeks, but not decided febrile manifestations. There was abundant appetite, with considerable thirst. In the first case I supposed the gastric disorder attributable to teething or dietetic irregularity, and never suspected danger, though a little annoyed at the persistence of the symptoms, until at the end of about ten days feeble, irregular pulse, slight convulsions, coma, and death wound up the case at the end of about fifteen days from the commencement. The other two cases were of almost the exact pattern of the first. I am now satisfied they were all cases of infantile tubercular meningitis, which I did not suspect at the time. Probably the most useful service I may be able to render in a further account of this disease will be to give a minute and circumstantial account of the children thought liable to it, together with such advice as may seem likely to prevent its development; for I may as well say here, as I shall have to do further on, that any

system of medical practice with a view to cure, after the disease shall have made a decided footing, is much about as unpromising as treatment for the cure of well-established pulmonary tuberculosis. The children prone to this affection are those whose ancestors, either immediate or remote, have suffered from scrofulous or tubercular diathesis and disease. From such ancestry the predisposition is transmitted as an inheritance to the offspring. Of course the nearer or more immediate the diseased ancestry the greater the probability of hereditary transmission and of diseased development in the infantile progeny. The fact that the immediate parents of the children have remained healthy does by no means always give immunity from disease to their immediate offspring, as it is well known that children sometimes go back two, three, or four generations for hereditary peculiarities, both healthy and unhealthy. Such children are usually considered "puny," "wormy," "sickly;" are esteemed very "smart" mentally, but are prone to indisposition from slight causes. They have thin, fair skin, full blue eyes, flaxen hair; small, slender extremities, full abdomen; large brain; freakish, fastidious appetite; disturbed dreamy sleep; whimsical, capricious temper; large frontal development of the brain; partial curvature of the spinal column; a rickety, wobbling set and motion of the ankles. Now, of course such children have a proneness to many forms of disease, but none at this early period of infantile life of so much danger or importance as tubercular meningitis. Such children have thick, short upper lips, much inclined to chaps, blisters, and scabs. They have short, thick pug noses, the membrane of which is inclined to extremes of dryness or excessive secretion. The nasal respiration is either dry, noisy, and whistling, or is obstructed from thick, excessive secretions. There is much disposition to pick the thickened, inflamed lips, or to pick and bore into the nasal cavities. The hypertrophied tonsils obstruct the faucial passage, and readily take on inflammatory action on slight provocation. The cervical glands are large and tender. The bowels alternate between diarrhœa and constipation. The renal secretion

likewise alternates between deficiency and excessive quantities; being pale and milky when excessive, and of rank odor and high color when scant. Such children will be found to have feeble powers of resistance, as shown in the quickness with which they tire under physical activity, and the readiness with which they succumb to disease-producing causes, and the great difficulty with which they reach convalescence and return to a state of tolerable health. Their friends and physicians are ever in quest of "tonics" and "something to build them up."

If asked to give the earlier or primary symptoms of tubercular meningitis I confess I should find it exceedingly difficult to comply with such request, either to the satisfaction of the reader or myself. Probably I could not render better service in this line than by giving some account of a case recently under my care in this city. While treating Mr. S——, for rapidly advancing pulmonary tuberculosis, my attention was called to his son, an only child, a bright, smart, handsome lad of about four years, for what seemed to be an attack of malarial intermittent. Under appropriate treatment the fever gave way and he was on his feet at the end of about six or seven days. He did not, however, recover his wonted energy, complexion and strength. He seemed debilitated; his upper lip was chapped and inflamed; his nose was dry; he picked and bored into it almost incessantly. His mother and grandmother insisted he "had worms." At any rate he ought to have "a tonic." As a sort of compromise and to meet importunities I prescribed him an elixir of Calisaya and Iron, which seemed to benefit him for a time. About six weeks after the attack of fever he began to droop again, and seemed decidedly "out of condition," though with no very noticeable symptom of disease. He simply seemed apathetic, was disinclined to play or the usual sports of childhood; appetite poor; required much caressing and attention from his mother to keep him in tolerable mood. About three weeks after the first attack he sickened suddenly and violently at night, with severe abdominal pain and fever, in my absence, and was seen by my friend, Dr. Walker,

who diagnosed the case as one of malarial fever and prescribed Gelseminum to abate fever and Cinchonidia to prevent recurrence of fever. At the end of about one week the febrile symptoms gave way, but it was noticeable that he did not get out of bed. His remaining in bed rather perplexed me, but I supposed it the result of debility from recent fever with a little of whim and caprice, and that he would soon be up again. After he had remained thus in bed free from fever and with fair appetite for two or three days, I examined him critically, but could find nothing positive or peculiar, except extreme frequency and irregularity of his pulse, furred tongue and scanty rank-smelling urine with high color. I prescribed him Digitalis, and advised his mother to give him good diet, with an occasional milk and whisky punch. His urine improved, but he still declined to get out of bed. He did not call for his toys or playmates, was much disposed to sleep, disinclined to talk, with much audible sighing and moaning and incessant picking at the nose and lips. When this passive apathetic condition of matters had lasted for three or four days his mother told me she had been greatly alarmed the previous night by Johnny's deep profound sleep and the difficulty of arousing him. I did not like the symptoms. After the next night she told me, at my morning visit, that the profound sleep of the previous night had been alternated with decided delirium. Upon examination I found him still much inclined to sleep, disinclined to communicate speech, pulse less irregular, but too frequent, urine better under use of the Digitalis, tongue furred, bowels confined, pupils dilated and insensible to light.

Suffice it to say, this condition of matters went on rapidly from bad to worse, the coma especially increasing, with occasional slight convulsive manifestations, and now and then a little flushing of the cheeks, with aimless continuous motion of the left hand and foot, thumbs resting in the palmar surface of the hands, until death closed the painful scene about ten days after the subsidence of the second attack of fever. Dr. Walker continued to see the case and fully agreed with me as to its ultimately prov-


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ing one of well-marked tubercular meningitis. Do you ask me what we gave the little fellow after the appearance of decided brain symptoms? I will tell you. We gave him Belladonna, Nux, Opium, Hellebore, without the slightest apparent impression on the symptoms. I regret that frankness compels me to say I have no more confidence in any attempt at curative treatment in these cases, when well established, than in attempts to cure well-marked, well-advanced pulmonary tuberculosis. Our sole opportunity for usefulness in this class of cases is to put our little clients on such well-timed discreet hygienic advice as may probably prevent a development of the disease. To this end these children who have inherited these strumous and tuberculous predispositions should live, as far as possible, in the fresh open country air, remote from towns and cities. They should be encouraged to romp and disport themselves, as much as possible, in outdoor places in all suitable weather. In bad weather they should be provided with ample indoor sports. They should have a daily bath, suited in temperature to the state of the weather and their own reactive powers. Food should be judiciously selected, well prepared, and served in uniform quantities and at regular intervals. Until such children shall have reached the tenth or twelfth year the food should consist almost exclusively of good fresh milk, mush made of unbolted wheat flour, or oatmeal, boiled rice, boiled potatoes, and well-cooked fruits. After the second year of age, eggs, or simple animal broth may be allowed at the morning meal. After the fifth year of age a moderate meal of boiled fresh lean meat may be allowed three times per week, or on alternate days. On the days when meat is taken, the eggs and animal broth should be omitted. The meat should be taken at breakfast. Tea, coffee, spirits, and all narcotic agents should be scrupulously forbidden. Now if we can bring sufficient influence to bear to keep our little clients under this RÉGIME until ten or twelve years old, we have a fair chance to save them not only from brain troubles, but many other troubles peculiar to their time of life and predisposition. Never allow

such children to go to school until ten years of age, and not then unless strong. Allow them pictures, charts, prints, slate and pencil, as toys and modes of amusement, but not as a TASK. Have them sleep in well-warmed, well-ventilated, rooms, and ONLY ONE IN A BED. Encourage them, according to age, to sleep from eight to ten or twelve hours in the day and night. They should never, if possible to prevent, be allowed to contract measles, scarlet fever, whooping-cough, as the shock from such diseases in violent or decided form may greatly endanger tubercular development in the brain or elsewhere. Mothers of decidedly scrofular or tubercular tendencies should be advised not to nurse their children, but provide them wet nurses or raise them "by hand." And thus we perceive, that while we may be helpless in the presence of tubercular disease of the brain, we may perform a beautiful and benevolent service in its prevention, provided we enjoy the diligent, faithful co-operation of parents and guardians in the hygienic control of their children. And you will owe it to yourself and all concerned to insist tenaciously upon such co-operation and such control, after having set in a clear light before all the parties interested the dangers to be dreaded and to be warded off.

It will be perceived, from the tenor of the foregoing views, as to the nature and treatment of this disease, that the *treatment* is almost entirely *hygienic* and *preventive*, rather than curative. We *prevent* tubercular formation, if possible, and, when formed, *prevent* "softening," if possible. In this preventive aim therapeutics play but a subordinate part relatively to good hygiene. Softening having set up, fatality is only a matter of time.

CHRONIC HYDROCEPHALUS.

THIS is a gradual chronic effusion of serum into the cranial cavity. According to the situation in which the fluid is found, the disease is divided into *external* and *internal;* the ventricles

being the seat of effusion in the internal, and the sac of the arachnoid in the external form of the complaint. It is eminently a disease of infancy and early childhood. In a very large proportion of cases it is congenital. In the acquired cases the trouble may doubtless be traced, in most instances, to some congenital defect in organization and nutrition. The instances in which a child with robust health and organization at time of birth have shown symptoms of the disease are extremely rare. Practically the disease may be regarded as congenital in every instance. The effusion is probably much more the result of depravity in organization and nutrition than any quality of inflammation; the evidences of inflammation as seen under post-mortem inquiry being more marked within the ventricles than in the meninges.

The appearance of the child under this disease is marked and peculiar, especially in those cases where the development is rapid and immediate after birth; the great disproportion between the size of the head and the rest of the body being the distinguishing feature. The head rapidly becomes so large and top-heavy that the neck does not support it in the upright position, but allows it to topple and roll, or fall in any or every direction, if unsupported. The child is obliged to remain in the horizontal or reclining position. For a time it may sleep and take nourishment pretty well, and manifest little or no symptom of discomfort, except rapid growth in volume about the head, with almost total arrest of growth in other portions of the body.

The *symptoms*, other than the cranial enlargement, indicative of the disease, are slight convulsive tendency, strabismus, constipation of the bowels, idiotic or imbecile expression of the features, rolling of the eyes, occasional diarrhœa. The cranial enlargement will be characterized by open fontanelles, open sutures, which, instead of closing up as age advances, become more and more open as the hydropic effusion advances, defective ossification of the cranial bones giving facility for expansion as it may be needed to furnish space for the constantly increasing accumulation.

The appearance of the infant in advanced and well-marked cases of the kind is pitiable in the extreme. The small, attenuated extremities; small, idiotic features and shrivelled skin, surmounted by a head large enough for a full-sized adult, presenting a spectacle ludicrous and grotesque beyond description.

The mode of death is usually by convulsions, coma, or atrophy, usually within the first, second, or third month after birth; but in occasional cases not until the tenth or twelfth month. In the well-known case of Thomas Cardinal, who was hydrocephalic from infancy, the patient attained the age of twenty-nine years, enjoying a tolerable amount of mental and bodily activity. Examination of the body after death found about eight pints of fluid within the cranial cavity. Many of these cases do not die of the hydrocephalic symptoms, but being feeble, and with slight powers of resistance and endurance, readily fall a prey to such diseases as are peculiar to childhood, as measles, whooping-cough, scarlet fever, teething, diarrhœa, etc.

Cause.—This will nearly always be found in some fault or defect in one or both of the parents, such as the scrofulous or tubercular cachexia, syphilis, violent protracted illness or injury of the mother during pregnancy, consanguinity, old age of the father.

Prognosis.—So unfavorable as to make death only a question of time.

Diagnosis.—The diagnostic symptom or fact is to be found in the hydropic cranial effusion, which may usually be readily detected through the open sutures and fontanelles, in connection with cranial bulk or development wholly out of proportion to the other parts of the body.

Treatment.—Any mode yet adopted has certainly been quite unsatisfactory.

Theoretically, we should expect such excellent remedies as Belladonna, Calcarea, Phosphorus, Sepia, Arsenicum, and Sulphur, to be serviceable in these cases; but unfortunately experience has not done much to confirm either the theory or expectation. In exceptional cases, good hygienic and especially dietetic advan-

tages, in connection with appropriate medication, have seemed to bring the cranial effusion to a halt for a time, so as even to allow some growth of the body. But the effusion already accomplished retains its place, to embarrass the brain and obscure the mind, so that while the body may make some show of growth, the mind remains dwarfed to an extent that death might be esteemed a merciful visitor. Tapping, strapping, compression, mercurial inunction and injection have been advocated and practiced to some extent, but with no very satisfactory or encouraging results.

CONVULSIONS.

CONVULSIONS are by no means confined to the period of childhood and infancy, but do occur very much more frequently and are attended with vastly more violence and peril during the tender years than in adult life. Except in epilepsy they are rarely idiopathic or primary, but nearly always secondary to or symptomatic of other affections and disorders.

West has a bit of theory, that convulsions are to children what delirium is to adults. This theory might be somewhat plausible, if it were not for the fact that adults very frequently have convulsions, and sometimes delirium and convulsions combined. Infants and children frequently have delirium alone or in connection with convulsions. An important ground of destinction between adult and childhood's convulsions is, the relative danger and fatality in the case of children as compared with adult cases. I think some of the most violent and terrific cases of convulsions I have ever witnessed were adult. And yet I do not now remember ever to have seen an adult die of the symptom. I have seen young women have most violent hysterical convulsions in rapid succession for several hours at a time, each convulsion seeming as if it would break the great bones and snap the great muscles of the body, with little or no other hurt than soreness and exhaus-

tion the following day. I think I have seen them have as many as fifteen to thirty in the twenty-four hours with no fatal result. Drunkards suffer fearfully in this way, but I believe rarely ever die in convulsions. Even confirmed adult epileptics rarely or almost never die in one of their attacks. It is true they fall into a sort of decay and die after a while, but not immediately of convulsion. This immunity from death or fatality cannot be affirmed of children. Children in apparent good health in the morning may have convulsions from slight cause and be dead before nightfall. I saw a fine strong lad, two years ago, who was only slightly indisposed in the morning, fall into congestion of the brain and one convulsion killed him about noon the same day. I know of no symptom of the same frequency of occurrence that gives me so much concern as a show of convulsion in childhood. It is difficult to account for the suddenness of death in these cases upon any other hypothesis than that of extensive blood extravasation into the substance of the brain and spinal marrow. In slower cases of much duration a probable hydropic effusion might account for the fatal result, but in many cases the time is all too short for this mode of death. The convulsive disorders of childhood and infancy are rarely ever idiopathic, except it may be so in epilepsy. And by which we mean that children never have convulsions without some preceding or accompanying symptom. Convulsions then in childhood always make part of a complication. The various symptoms and pathological states with which they may complicate are numerous and variable almost to infinity. Any or all the acute affections may have convulsions as a complication. The febrile state shows the greatest proneness to add convulsions to its pathological and symptomatic drama. All the localized phlegmasia when serious or violent may have convulsions. Many diseases in which there may for the time seem to be neither fever or inflammation, may result in spastic or convulsive action. Of these we may mention whooping-cough, teething, diarrhœa, dysentery, gastric disorder, from excesses in diet, tumors of the brain or other foreign bodies

in the cranial cavity, deformities and injuries of the spine. The febrile and inflammatory affections likely to result in convulsions are all the idiopathic forms of fever, whether intermittent, remittent or continued, scarlet fever, measles, pneumonia, bronchitis, encephalitis, diphtheria, tubercular meningitis, cerebro-spinal meningitis, constipation, etc., etc. The greater proneness of children to convulsive affections and the marked mortality are simply recognized facts in our experience, but for which we have no very satisfactory reason or explanation. We have usually contented ourselves with attributing the former to the excessive sensibility and the latter to the inferior powers of resistance in childhood as contrasted with adult age. But I do not know that these explanations serve any better purpose than that of shifting our ignorance from one shoulder to the other, in order that the weight may not rest painfully long in any one place. Two facts are well recognized: 1st. The marked tendency to convulsive disorders among children while laboring under any form of serious disease. 2d. Their marked fatality. Let it be understood, then, that convulsions in children are always consequential or the offshoot of other diseases; are never idiopathic, as we say, except it may be so in epilepsy; and even here we can frequently trace the symptom to some accompanying or pre-existing disorder of the system. And should we detect a tendency to convulsive disorder with no perceptible or appreciable other form of disease we may safely suspect a tendency to epilepsy. Children of very opposite condition and temperaments are strongly predisposed to the trouble under consideration. Very fat robust children, with violent acute disease, are much inclined to convulsive troubles, and when so attacked are in much danger, either from congestion or other lesion to the brain, which may result fatally in the second or third convulsion, and in a few hours. Children who have precisely the opposite physical peculiarities are much prone to convulsions, being thin, spare, delicate, with large brain in proportion to the age and bodily size. Such children are usually styled "nervous," from their great susceptibility to any or all agencies,

mental, moral, and physical, brought to bear upon them, whether normal or abnormal. Such children are much prone to convulsions while teething, also from over-exertion, errors in diet, fright, whooping-cough, and all or any agencies which address themselves specially to the nervous system. While lean delicate children are much more liable to have convulsions than fat robust ones, the chances of fatality or probability of risk is much in favor of those of the "lean kind." This relative exemption from risk or fatal result is somewhat counterbalanced by the greater probability, in the case of slender children, that the trouble, from frequent repetition, may become habitual and ultimately assume the form of epilepsy.

The *causes* of convulsion among children, as before intimated, are almost always the accompanying or pre-existing form of some febrile or inflammatory affection. So that children never or very rarely have one without the other. Probably some children inherit more or less tendency.

Prognosis.—This should always be regarded as unfavorable, especially if there be several convulsions of decided violence in rapid succession.

The *symptoms* constituting this disorder are so open and known to all as to require no very minute account either upon the score of recognition or diagnosis. In slight cases one of the first symptoms may be slight twisting of the facial muscles, with a momentary fixation or set condition of the eyes. In such cases there may be very slight but perceptible rigidity for a moment of the upper or lower extremities; the great toe being drawn away from its neighbor and the thumbs drawn into the palmar surface. In more decided cases the whole body becomes violently agitated from involuntary muscular motions, accompanied with much rigidity everywhere, partial or complete loss of consciousness, frothing of the mouth, bloodshot eyes, lividity of the features, involuntary stool. This ghastly spectacle is followed by a profound comatose sleep, of variable duration, from which the patient may arouse to pass at once into a repetition of its late preceding pain-

ful experience, and so on in rapid succession for two, three or four times, and die in two, four or six hours from the first fit. In other cases of much danger and violence the fits may not follow each other in such close succession, but may be several hours apart.

The *treatment* is either preventive or curative. The preventive treatment consists in the relief or alleviation of those disorders calculated to produce the disease which is now under review. For instance, if we have a case of violent malarial fever with show or tendency to convulsion, we inaugurate the most energetic means for subduing the fever as a means of warding off the convulsion. And so in any event of fever or inflammation we make haste to abate the primary malady to prevent the secondary one. And just here it may be well to say, that in all violent febrile and inflammatory affections, where from certain manifestations we have reason to fear spasms, I know of no remedy so trustworthy as the Veratrum viride. It should be given low and at short intervals.

The curative treatment, or that for the immediate relief during a paroxysm, must be prompt and energetic, or the child may die at once. The first thing usually to be done is the immersion of the entire body in hot water, with fresh or pungent mustard. Allow the child to remain for several minutes, or until relaxation takes place, and when taken out have it wrapped immediately in a woollen blanket, to induce perspiration and a further relaxation. Should the symptoms be very obstinate and violent, we will be authorized to allow inhalations of chloroform, either while in the bath or afterwards, according to circumstances, watching the effect and not pushing the inhalations beyond the slightest appearance of relaxation. Should the inhalation seem too transient and require to be repeated too often, we may gain very satisfactory results from its exhibition by enema. Give a teaspoonful in a tablespoonful of water in this way, and repeat at intervals of one-half to one hour, according to circumstances. In such cases we gain much additional help where there is much arterial excitement from the addition of two to five drops of the Veratrum viride to the chloroform

enema. Let me caution you against putting any medicine in the child's mouth during an attack. None of it will be swallowed, but from the open and insensible state of the glottis and epiglottis, the dose may find its way into the larynx or trachea and either produce suffocation or greatly intensify the convulsive attack. Should there be reason to suspect an overloaded state of the stomach as a cause, in whole or in part, of the trouble, you will avail yourself of the earliest opportunity to administer a brisk emetic for the removal of the offending ingestâ. Should there be an overloaded condition of the intestines, and especially the colon, administer a full enema of warm water, salt and mustard. When we shall have gotten the hubbub of symptoms and excitement into some sort of quietude, we may settle down to the systematic use of such treatment as may be called for with reference to the present and the future. Aconite, Belladonna, Nux vomica, Ignatia, Chamomilla will be entitled to special consideration, according as the indications may be febrile, cerebral, gastric, intestinal or neurotic. In the meanwhile, of course, you will have special reference to any local phlegmasia or other affection upon which the convulsive trouble may depend.

If the case be one of malarial intermittent, or remittent, in which your patient may be comfortable and free from any trouble during the remission or intermission, have special reference to warding off the next recurrence of fever as a sure means of preventing a renewal of the convulsive disorder. And I do not mean to mince matters in telling you that your chief source of security here will be the discreet, prudent, but *effective* use of the cinchonal preparations. Give enough to keep off the next attack of fever, be it anywhere from one-tenth to ten grains, according to the age of the patient and the urgency of the symptoms. Adopt the practice and defend it upon principle, as being just as homœopathic and much safer in a curative point of view, as if the remedy were used at the 30th or 200th.

ATROPHIC INFANTILE PARALYSIS.

THE name is somewhat a misnomer, as the disease is scarcely confined to the period technically known as infancy; but having the authority of use and currency in the profession, we accept it rather than multiply terminology. Paralysis may occur at any period of life, but there is a marked difference in the precedent attendant and consequent conditions of adult paralysis as compared with the form of trouble now under consideration. The disease may be congenital, but is more likely to show itself at some time during the first two years; in occasional cases as late as the sixth or eighth year. The symptom comes as a sort of surprise, suddenly, without warning previously or attending notice at time of occurrence. The child is found to have a paralyzed member as the first evidences that anything has gone wrong with it. In some cases the attacks are preceded by convulsive disorder, but this is by no means necessary or the rule in these cases. The disease consists in a loss of voluntary motor muscular power, arrest of development, atrophic appearance, with fatty degeneration of the parts.

The parts involved are usually the extremities, upper or lower; sometimes a single leg; sometimes both legs; somtimes a hand and arm; at others a leg and arm of the same side. In rare cases the disease shows itself in a hemiplegic form. There is little or no impairment of sensation. The accident is much more frequent in the legs than in the arms; paraplegia is more probable than hemiplegia; both arms being involved without trouble in other parts of the body is very rare. We are indebted to West for the following satisfactory tables as to age, sex, and the parts involved:

	Male.	Female.			
In	1	1	occurred under	6 months.	
	0	1	"	between 6 months and 1 year.	
	12	7	"	"	1 and 2 years.
	3	9	"	"	2 " 3 "
	3	3	"	"	3 " 4 "
	1	1	"	"	4 " 5 "
	1	0	"	"	5 " 6 "
	1	0	"	"	7 " 8 "
	22	22			

From which it is seen that in forty-four cases, two-thirds occurred between the sixth month and the third year, during the period when primary dentition is in active process. "With reference to parts affected, in one case only was the arm paralyzed, the legs not being involved.

"Eighteen cases legs only affected, viz.: five times the right; five the left; eight both.

"Twenty-five cases, legs and arms both involved, viz.: 8 cases, right legs and arm; 6 cases, left leg and arm; 4 cases, both legs and right arm; 3 cases, both legs and left arm; 4 cases, both arms.

"Of these twenty-five cases there were thirteen in which the arm had perfectly recovered while the leg had not; and eight in which both had continued paralyzed at the time the patient came under my care, though these figures do not in the least express what may be the ultimate issue of the cases."

While the loss of motor muscular power is the leading prominent symptom, and usually the first to attract attention, the loss of power is partial, not complete; the patient retaining more or less power to effect feeble flexion and extension of the affected limb. In very young children, devoid of sufficient intelligence to communicate by speech, and before the period of locomotion, or much ability to handle toys, the disease may have made considerable progress before attracting attention, so as to render the precise date of attack doubtful. In older children the symptoms appear more abruptly, and at once manifest themselves by inability to use the affected part. As before remarked it is a peculiarity of this disease to manifest itself without preceding or accompanying symptoms. In some cases convulsive disorders may precede; in others a general prevalence of poor or unsatisfactory general health, but more usually the first noticeable condition is inability to use the part. This is early followed by a relative loss of size as compared with the corresponding healthy member; if in both members of the kind, by relative loss in size or growth as compared with the rest of the body. From non-use the muscles cease

to grow and develop; and from some peculiar change in the nutrient function of the part, what is known as fatty degeneration takes place; the loss of muscle and the fatty deposit giving the part a softish, non-elastic, pulpy feel to the touch. In some instances the fatty process is not so apparent when the part is simply shrivelled and of diminished size.

There is usually little pain; no impairment of the sense of touch; but in exceptional cases hyperæsthesia of a troublesome kind or extent. The mental condition is usually intact, except it may be in congenital cases, or where several members are simultaneously involved with the effect of much constitutional impairment. Indeed, in many of these cases there is unusual mental activity, amounting to precociousness.

Pathology.—Much industry, learning, and zeal have been displayed by the physicians of both Europe and America in attempts to demonstrate the nature of the disease, and to determine the origin and starting-point. The galvanic battery during life; the scalpel and microscope on the cadaver, have each been appealed to to unravel the difficulty. Opportunities upon the cadaver have been hindered from the fact that such patients rarely or never die of the symptom, but may die long after the primary attack, of other diseases, and so raise a doubt at the post-mortem whether post-mortem appearances are due to the paralytic trouble or the disease of which the patient may have finally deceased. Should a case of the disease without complication die suddenly from traumatic violence, and an examination be allowed, it would furnish a fair chance for useful investigation; but such a combination of advantages must, of course, be very rare. Enough has been gleaned, however, by observation, analogy, dissections, and histology to pretty well settle the question that the trouble has its primary seat at some point in the cerebro-spinal axis, and most probably in the spinal marrow and its meninges; that that portion of the spinal marrow and its membranes, at or near which the nerve going out to the part affected takes origin, will be found in such state of congestion, inflammation, or other disorder, as to

account for the peripheral malady at the extremity. The most plausible speculation now in vogue attributes the disease to what has come to be known as spinal sclerosis. It is a subject of much curious and special interest, and will doubtless continue to receive much careful attention in the domain of minute and histological investigation.

The **Pathological Anatomy** of the part, where the diseased manifestation takes place in the extremity, is easily enough demonstrated. It is a state of muscular waste from defective nutrition and non-use, the remnant of fibre being permeated by what is known as fatty degeneration, with large surrounding accumulation of adipose tissue.

Diagnosis.—Taking the age of the patient, the sudden attack during apparent good health, the parts involved, the obvious loss of motor function, with atrophy of the part, all into account, there ought to be little difficulty in making out the true nature of the case.

Prognosis.—These cases very rarely terminate fatally; it is equally true that they rarely ever attain entire relief. Some improvement may in most cases be promised, but permanent partial loss of both function and size in the part may be expected.

Treatment.—Unfortunately this is about as much a *terra incognita* as the matter of pathology in this disease. If the theory that the trouble has its seat primarily in the spinal marrow and its investing membranes be true, then Nux vomica, Belladonna, Gelseminum, Veratrum viride, and galvanism ought to be our most promising resource. To go over the differential details which should govern the selection of one or the other would be tedious in view of their thoroughly well-known symptomatologies. Suffice it to say Veratrum viride would claim attention in the very onset, and especially in the presence of fever or convulsive manifestation; Gelseminum likewise in the earlier stage, and specially in the presence of fever, gastric disorder, pain or tenderness in the posterior cervical region, with involvement of the superior extremity; Belladonna for general tenderness and

pain in the spine, tendency to febrile flashes, flushed cheeks, pain in the frontal part of the head, poor sleep.

When the immediate onset shall have been passed and matters settle down for a regular siege, undoubtedly Nux vomica, with skilfully applied galvanism, will be our best resource, whether with a view to the symptom specially or the bodily condition generally. Their use had better not be repeated too frequently, as their occasional use will necessarily be spread out over many months, and even years. Daily tepid water applications to the cutaneous surface, followed by abundant friction locally to the part affected, generally over the body, and very energetically along the spine, will be of much service. If these frictions be made with the warm, open hand of a strong, healthy person, a *magnetism* may be imparted which will give additional efficacy to the simple matter of friction. All the adjuvant help to be got from sleep, in large, well-ventilated apartments, open-air exposure, massage and systematic gymnastics should be sedulously resorted to. Deformities likely to arise in the progress of these cases should, of course, receive the attention of the surgeon, as tenotomy, and well-adjusted mechanical support may be of great service in their palliative or curative management.

CHOREA.

This is a disease in which the trouble seems to reside primarily in the nervous system, while the prominent symptom or manifestation is in the motor muscular apparatus; a partial loss of voluntary control over muscular motion; the will, for a time, losing its perfect and exact power to regulate with precision the muscular movements for any given purpose or end. The muscular functions, other than those intended by nature to be under voluntary control, seem little, if at all, affected, as the muscles concerned in circulation, respiration, secretion, excretion, etc.

The period of infancy seems almost entirely exempt. The obnoxious period lies between the fourth and twelfth years. In a table, 1141 cases admitted into Ormond Street (London) Children's Hospital, the largest percentage of cases was between nine and ten years of age; the smallest between the fifth and sixth years. There was a very uniform rate of increase from the fourth to the tenth year; a slight decline between the tenth and twelfth years. Girls seem much more prone to the trouble than boys, in the proportion of about two to one. Of the 1141 cases 794 were girls, and 347 were boys. As regards the time of life it seems much confined to the period embraced between the completion of the second dentition and those changes incident to the attainment of puberty. The most eminent authorities and observers are pretty well agreed as to a very frequent relation of the disease to articular rheumatism and pericarditis. M. Sée states that, of 109 cases of rheumatism admitted into the Hôpital des Enfans, 61 were complicated with chorea. The late Dr. Hillier states that, of 37 cases, he found 15 who had themselves been rheumatic, and seven others, one of whose parents were said to have been rheumatic. Dr. West found, in the Ormond Street Hospital, that, of 33 cases, 11 presented a rheumatic history. The disease is somewhat self-limiting; that is to say, inclined to spontaneous recovery. The duration is subject to considerable variation between the limits of three or four weeks to as many months. In 117 cases reported by M. Sée the average duration was sixty-nine days. The cases inclined to long duration are those which settle down into a local prevalence, involving one limb, or a particular group of muscles, rather than the muscular apparatus generally.

Judging from statistics and personal observation, I incline to the opinion that the disease is of more frequent occurrence in the dense populations of Europe than in the American States; and probably more frequent in the Eastern and New England States of America than in the sparser populations of the South and West. In the South and West I think the disease is less frequent among negroes than the white race. In a long and varied

experience in general practice in the South and West I have only treated about five cases, and have never seen, all told, above a dozen cases.

Symptoms.—The prodromic ones are a peevish, irritable, impressible state of the nervous system; languor, debility, disturbance of bodily functions, as shown in irregular or impaired appetite; constipated or loose bowels, with a jerky, specially quick, muscular movement.

Well-marked symptoms may be sudden, but are usually somewhat gradual in their establishment. The earlier chronic movements manifest themselves in the fingers, hands, arms, and facial muscles by slight twitchings; gradually become bolder, and finally spread to the body and lower extremities; and, when well developed, somewhat specially involve the muscles of the vocal apparatus, so that speech becomes difficult.

When the disease is in full play the muscular movements become thoroughly irregular, aimless, grotesque, and pass at times almost beyond voluntary control. The patient goes almost anywhere, and does almost anything except that which is desired. He finds it impossible to go in a straight line across the room. He does not carry a half-filled cup of liquid to his lips without spilling it upon his person; can carry a morsel of food to his mouth only after repeated attempts; in fact can only feed, bathe, or dress himself with the greatest difficulty; being at times in absolute dependence upon the assistance of others in the comfort and gratification of his personal wants and desires.

The fingers and hands are rapidly and aimlessly opened and shut; the arms rapidly flexed and straightened; the facial features and muscles pass through rapid and incessant alternations of repose and motion; the head rolls from side to side, or moves rapidly forward and back; the lower jaw is in motion, as if making awkward efforts at mastication; deglutition and mastication are difficult, and at times for a while impossible. Locomotion is performed in the most zigzag, irregular, and uncertain manner; the only tolerable success in this line being accomplished

by the patient going on a sort of trot or run. Any efforts at precision or deliberation seem only to make matters worse.

As such patients are usually very sensitive and impressible, mentally as well as physically, the consciousness of their own grotesque appearance, and that they are the objects of attention, adverse criticism, and remarks, bring mortification and humiliation, which markedly aggravate the bodily infirmity. Anger, terror, restraint, opposition serve to intensify the symptoms. As before stated, the disease is of the voluntary motor function, the involuntary motor power being exempt. The sphincter muscles, being partly voluntary and partly involuntary, are sometimes embarrassed in the voluntary performance of function; hence we have in some cases retention or incontinence of urine, difficult or involuntary stool.

It is worthy of remark that such incessant, universal, active waste of muscular activity should seem to make so little inroad upon bodily vigor and strength, does not induce apparent fatigue. The disease is painless, except from complication with some painful form of disease. The muscular motions constituting the affection are entirely suspended while asleep. The appetite is good; the mind suffers but little, if at all; good sleep is the rule, insomnolence the exception; the pulse is natural; bowels regular, if not slightly constipated; temper inclined to be irritable.

In protracted, obstinate cases, especially in complication with other symptoms, partial paralysis may occur.

Relapses are frequent, but as a rule these are successively milder as they may be more remote from the primary attack. M. Sée, in 158 cases, counted 37 relapses, of which 17 were arrested after the second attack; 13 suffered a third, and 6 a fourth attack; 1, seven attacks, with distinct intervals between each.

Causes.—Those of a predisposing kind are great irritability and susceptibility of the nervous system, whether congenital and hereditary, or acquired as the result of overexertion or exhausting disease. The exciting causes are blows resulting in severe inju-

ries to the brain or spine, terror, mental excitement, worms, faulty digestion, bad or insufficient food, dentition, imitation.

Pathology.—As to whether the brain or spinal marrow, one or both, or neither, may be the seat, focus, or primary starting-point in this disease, are matters *sub judice*, in which examinations upon the cadaver have done but little in the way of enlightenment.

The fact that the disease seems in occasional cases to be imitative adds to, rather than abates, our ignorance on the subject.

Prognosis.—In simple, uncomplicated cases this may be regarded as favorable, especially in American experience. In Great Britain, during twenty-three years, there were 1255 deaths. In the city of Philadelphia, during seven consecutive years, in an absolute or general mortality of 84,322 at all ages, there were but 3 deaths from chorea. Should the symptoms prove violent, obstinate, protracted, with subsultus tendinum, loss of sleep, loss of appetite, difficult respiration, a fatal result should be apprehended.

Treatment.—The very decided uniformity and identity of symptoms as between one case and another, except as to relative mildness or violence, does not furnish a field for variety in the choice of remedies. Indeed, the well-established fact that these cases are self-limiting, show a strong tendency to spontaneous recovery, raises the question as to whether the treatment adopted, after all, has much to do with the duration of the disease.

Nux Vomica.—Constipation, furred tongue, gastric eructation, faulty digestion; clay-colored, tardy, or black and tardy stools; scant urine, great muscular agitation, partial paralysis.

Actea Racemosa.—Myalgia, rheumatic manifestations, menstrual disorders, girls nearing puberty.

Ignatia.—Girls nearing puberty, great excitability of mind and body, hysterical manifestations, frequent spasmodic yawning, imperfect sleep, palpitation of the heart; excessive urine.

Arsenicum.—Cool extremities; muscular atrophy; frequent, small, loose, lienteric stools; thirst; poor sleep; turbid, milky urine.

Phosphorus. — Muscular waste, masturbation, amenorrhœa, leucorrhœa, chlorosis.

Belladonna.—Frontal headache; open pupils; hysteria; flushed cheek; pain in the back.

Galvanism—Hydropathy.—These will be found valuable adjuncts to any therapeutic course, by way of obtunding morbid nervous sensibility, equalizing the neurotic function, and in giving tone and energy to the bodily functions generally; the "wet sheet pack" being especially useful.

Air—Exercise—Food—Sleep.—Free exposure in the open air, exercise just short of fatigue, an abundant supply of good, nutritious food, with ten to twelve hours' sleep in a well-ventilated room, will each and all be matters of the first importance.

If possible, do not allow such cases to get in sight of a book or a schoolroom.

Stammering.—This will probably be the fittest place to give this subject some passing attention. The literature of the subject is scant. It is eminently a local chorea of the vocal apparatus, greatly hindering, and at times, for the moment, defeating effort at speech altogether. The trouble always has its origin in childhood; but, when well established, is likely to remain more or less in all after-life. It is so imitative in its influence on others, that in a family of children, or in foundling establishments, an example of the kind may exert a most pernicious influence by spreading the vexatious habit to the inmates generally. Children, the victims of this infirmity, will be found of the *choreic* peculiarity; that is to say, of frail, slender form, nervous, impressible, excitable, not of robust health, poor feeders, poor sleepers, peevish, fretful, wayward; rather likely to get sick; and when sick do not recover readily. The trouble consists in a simple inability to say what the patient wishes to say at the instant. Not that anything else will be said; but simply that the particular thing desired to be announced cannot be accomplished without much halting, hesitation, and effort. The consciousness that one is the subject of such defect seems greatly to aggravate the infirmity. As these

patients grow older and stronger they generally manifest some show of gradual improvement; but, as a rule, some remnant of the difficulty sticks to the patient through life. The notable case of Demosthenes comes down to us through historic records, who is represented to have been an inveterate stutterer; so bad as to have been wellnigh speechless; and that he cured himself by long practice at loud speech in the presence and noise of the waves at the seaside with pebbles under his tongue. What the pebbles or waves could have had to do with the cure we cannot very well understand; probably just nothing at all, except as they may have served to withdraw attention from his infirmity, while by persistent, diligent discipline and effort he succeeded in getting the mastery over the vice.

Treatment.—Specific or special medication could scarcely be serviceable, except as it might serve to remove any accompanying sickness, and for the improvement of the general health.

An affectionate, sympathizing, admonitory course of discipline will be the proper one. Teach the patient a habit of deliberation and slowness in speech, and above all to inflate the lungs well before beginning. Manifest the greatest patience and forbearance toward the patient, seeming to pay as little attention to the defect as possible. Never allow it to be ridiculed on account of the infirmity, which serves greatly to aggravate the distress. A persistent, rational, persevering course of the kind, if early adopted, may bring complete relief; but it must be confessed that in very many instances a vestige of the trouble remains for life.

EPILEPSY.

This is a chronic habitual convulsive disorder, specially inclined to take its start about the fifth year of life. The disease does not manifest itself in some cases until far on in adult life. But by far the larger proportion of adult epileptics date the commence-

ment from about the fifth to the seventh year. There are strong reasons for believing the disease hereditary in very many instances. Many families, from motives of pride and other considerations, conceal the facts in family history going to illustrate the hereditary theory or view of disease. But quite a sufficient store of facts has been gleaned to show the hereditary nature of epilepsy in a very large proportion of cases. In other cases I think the frequent occurrence of convulsions during the febrile and inflammatory affections of childhood gradually assumes the chronic habitual form and so settles down into well-marked epilepsy. Indeed, epilepsy seems little else than convulsions minus the fever or inflammation, rendered chronic and habitual. In the malarial districts of the South, where fevers are frequent, violent and peculiarly likely to relapse or return at stated intervals, say on the seventh, fourteenth, or twenty-first day, I think I have detected a decided tendency towards epilepsy among those children who have had repeated convulsions during fever attacks. Undoubtedly a very large proportion of epileptic children have had acute convulsions before the setting up of the chronic malady. In still other cases the prevalence of the disease cannot be traced to heredity, previous convulsions, or any other known or appreciable cause; but slowly, insidiously, the symptom gradually gets a footing without apparent cause. Traumatic violence to the brain or spine furnishes cause for the trouble in many cases, such as falls, blows, gunshot wounds. Among boys the early use of tobacco, and the practice of masturbation serve as cause for the attack. Idiocy and imbecility from birth may complicate with epilepsy. In much the larger proportion of cases the mind is but slightly impaired or involved at the outset; but sooner or later the mind shows signs of giving way, and may ultimately reach entire imbecility. The chances of mental involvement where the disease starts in childhood are much greater and more serious than when the symptoms do not show themselves until adult age. Cases in which the attack dates commencement after puberty may continue indefinitely in great frequency and

violence with little perceptible mental impairment, but it is very rare to see an adult epileptic whose attack dates back to early childhood in which there is not serious mental loss. The relative frequency as between boys and girls does not show much difference. West, in a table of statistics for eighty-three cases, between the ages of six months and twelve years, gives forty-three boys and forty girls.

Symptoms.—These are slight and scarcely perceptible in very many cases at the beginning, just a little tremor or shudder, with partial loss of consciousness for a moment. Gradually these appearances grow bolder and more pronounced with each recurring paroxysm, at shorter and shorter intervals, until the fits present all the terrible violence and horror of a general bodily convulsion. The convulsive attack varies in length from two to five minutes to a half hour. The face becomes livid, the whole body is violently agitated, the mouth froths, the tongue is liable to suffer from the teeth; sometimes there is involuntary stool or urine. The paroxysm is followed by profound sleep, with noisy stertorous breathing, from which the patient awakes after a sleep of from one-half to one hour, not feeling particularly the worse for the attack, except perhaps a little languid and exhausted. The frequency and date of attacks is very variable even to the same individual. The patient may have three or four fits in quick succession during a given twenty-four hours and then no more for many days. In some cases there is a show of periodicity, so that the fit may be expected about once a week or twice a month. The popular superstition that the new or full moon has anything to do with the time of attack does not seem to have received confirmation by any system of recorded facts or observations. In many cases the patient has warning of an approaching attack by the "*Aura epileptica*."

Causes.—These have pretty much been brought to light in giving the history and nature of the disease. Hereditary transmission through a drunken, debauched, syphilitic parentage, consanguinity, traumatic violence to the brain or spine, fright, anger,

grief, stimulants, tobacco, gluttony, masturbation, may be set down as the usual causes, but it must be confessed in some cases, neither or any of these or other known or appreciable cause can be arrived at.

Diagnosis.—The habitual, established recurrence of the fit, without other or accompanying symptom, is sufficiently diagnostic to save or prevent mistake under this head.

Prognosis.—Decidedly unfavorable, especially as to cure, as the disease usually "wears its slow length along," until the poor patient is worn out. Death sometimes relieves the sufferer by accidental falls or hurts during a paroxysm.

Pathological Anatomy.—Examinations upon the cadaver have done little to enlighten us as to the intimate nature and cause, or treatment of the disease. Various morbid appearances in the brain and spinal marrow and their meninges have been found, as hydropic effusion, lymph, hardening, softening, thickening, embolism, extravasated blood, etc.; but precisely these morbid appearances have been found in other cases without epileptic experience during life; and in confirmed epileptics, post-mortem examinations in some instances have revealed few or none of these abnormal conditions.

Treatment.—Any comfortable experience in this quarter will be mainly preventive, rather than curative. Undoubtedly we may do much to prevent the disease, and even hope to do something creditable in the relief of mild incipient cases; but the hope of cure in bold full-fledged cases is very unpromising indeed.

Nux Vomica.—Convulsive twitchings, constipation, malarial poisoning, furred tongue, eructations, fetid breath, diarrhœa.

Ignatia.—For girls, and nervous children, whether boys or girls, defective sleep, easily startled, mental unrest.

Bromide Potass.—Malarial poisoning, prone to recurrence of relapsing intermittent and remittent fevers, gluttony, scant, highly colored urine, gastric disorder.

Stramonium.—Much the same indications as for Ignatia.

Gelseminum.—Malarial troubles, gastric disorders, pain at base of brain and nape of the neck.

Belladonna.—Habitual headache, dilated pupils, flushed face, backache, poor sleep.

Electricity may very properly play companionship to each or any of the foregoing remedies, if judiciously applied.

Let it be understood that treatment, to be effective or available, must have place in the very earliest inception of disease; confirmed, bad cases, are absolutely incurable. Understand, also, that an element of *time* is important in any plan of treatment; and by which we mean that persistent, persevering management as to remedies, diet, etc., must be spread out over much space of time, say from six to twelve months, or even two years; during which time the physician should have absolute control of all the patient's mode and manner of life and general surroundings. And for fear somebody might forget it, allow me to say, *the patient ought not to go to school.* Much exposure, with active exercise in the open air, moderation in diet, light evening meals, with abundant sleep in well-ventilated rooms, are each and all of the very first importance in the management of this class of patients.

NIGHT TERROR.

THE night terror, nightmare, somnambulism, bad dreams, sweet dreams, all dreams, doubtless depend upon a disturbed or imperfect state of sleep. Perfect repose in sleep should involve entire quietude, of both body and mind, excepting of course the respiratory and circulatory functions; and even these in such slow, tardy manner as may be necessary to keep soul and body together. Normal sleep should be devoid of any of the foregoing abnormal phenomena. The night terrors of young children correspond to the nightmare of adults; the habit of somnambulism, when present in the experience of adults, will usually be found

to have had its origin in childhood; the habit of dreaming being common to all periods of life.

In a very large proportion of all these manifestations of abnormal sleep, the defect will be found to have its origin in disorders of the digestive canal; and in an equally large proportion of cases the digestive disorder will be found to depend upon excessive alimentation, or the use of improper articles of diet. Of course, other symptomatic and pathological conditions might interfere to hinder dreamless sleep, especially among adults, but in the case of infants and children dietary abuse will be found the rule.

Symptoms.—The child going to bed in its usual health, falls asleep, to be aroused by or before midnight in the most fearful state of alarm and terror. It shrieks and screams; starts back as if in presence of some ghastly spectacle; appeals to those about it for protection from supposed robbers in the house, snakes, dogs, ghosts; will accept no assurance that its fears are imaginary; retreats, as the place of safety, in the arms of the mother or other friendly attendant; eyes bleared, wide open, pupils dilated; face flushed and hot; features presenting an expression of intense fear and alarm. This state of commotion is usually rendered short, by the soothing and assuring influence of the mother or nurse; but in exceptional cases may last for one or two hours; in others, the paroxysm being short, may return at short intervals during the greater part of the night. The children subject to this trouble are usually of frail, delicate organization and form, with excitable, impressible nervous system. The obnoxious period of life is the first three years; and specially during the period of dentition.

Cause.—As before stated, dietary excesses and irregularities furnish cause for a very large proportion of these cases; late, hearty suppers, and any habit of taking food during the night, being very specially the cause of much trouble to children predisposed, by excitability of nervous system, to cerebral and spinal disorders. Dentition, ghastly spectacles witnessed during previous

day, constipation, worms, close apartments, serve as predisposing or exciting causes.

Treatment.—If the theory advanced as to cause be true, it will be perceived that the treatment must be largely hygienic and preventive. The hearty supper at a late hour must be avoided; food during the sleeping hours must be omitted; a warm bath should be given at bedtime; the sleeping apartment must be large and well ventilated. It were the veriest cruelty and barbarity to treat the child with harshness or severity during the paroxysm; the mental condition being between sleeping and waking, with a quality bordering on temporary delirium. It should be caressed, and soothed into quietude; to accomplish which it may be necessary to sponge the face and head with tepid or cold water, and go for awhile into the open air. Certain medicines given during the day to remove attending symptoms, and thereby prevent the night symptoms, may be necessary.

Nux Vomica.—Constipation, with dark or black stool.

Podophyllum. — Whitish, clay-colored stools, showing deficient liver action.

Cina.—Inflamed, thick lips; bad breath, slight fever; picking the lips; boring in the nose.

Spigelia, much the same as for Cina, with the addition of more decided fever, flushed cheeks, wilfulness, starting while asleep.

Belladonna.—Poor sleep, pain in the head, flushed cheeks, delirium.

Coffea.—Insomnia.

We conclude: such children should be much in the open air; should be kept away from ghastly spectacles; away from books, or other intellectual activity; should not be entertained with weird and thrilling nursery tales.

HYDROCEPHALOID.

The symptomatic and pathological condition designated by Marshall Hall as hydrocephaloid is always secondary and consequential to some violent and exhausting form of disease. It does not occur as a primary malady. Strictly speaking it can hardly be styled a disease, but an enfeebled condition resulting from any disease producing asthenia, depletion, debility, with special manifestation of distress on the part of the brain, spine, and nervous system. The pathological condition is one of cerebral anæmia and irritation. From the sixth to the twenty-fourth month of infantile life is the period most obnoxious to the trouble. The tendency to this condition is special and peculiar to whooping-cough, teething, diarrhœa, and cholera infantum during protracted hot weather. Dietetic defects, with bad air and dirty, filthy surroundings, especially in large cities, are often present to lend a helping hand in the morbid process. Infants raised "by hand" suffer much in this way from bad or unsuitable quality, excessive quantity, or want of regularity as to interval in diet.

The disease or state is divided by Dr. Hall into two stages: 1. The stage of irritability. 2. The stage of stupor. In the first stage there is a feeble attempt at reaction, but in the second stage the vital powers appear exhausted.

Dr. Hall says: "These two stages resemble in many of their symptoms the first and second stages of hydrocephalus respectively. In the first stage the infant becomes irritable, restless, and feverish; the face is flushed, the surface hot and the pulse frequent; there is undue sensitiveness of the nerves of feeling, and the little patient starts upon being touched or from any sudden noise; there are sighing and moaning during sleep, and screaming; the bowels are flatulent and loose, and the evacuations are mucous and disordered. If, through an erroneous notion as to the nature of this affection, nourishment and cordials be not given, or the disease continues spontaneously or from the administration of medicine, the exhaustion which ensues is apt to lead to a

very different train of symptoms. The countenance becomes pale and the cheeks cool or cold; the eyelids are half closed; the eyes are fixed and unattracted by any object placed before them, the pupils unmoved on the approach of light; the breathing from being quick becomes irregular and affected by sighs; the voice become husky, and there is sometimes a husky teasing cough; and eventually, if the strength of the little patient continues to decline, there is crepitus or rattling in the breathing. The evacuations are usually green; the feet are apt to be cold."

I take great pleasure in quoting, as to symptoms and diagnosis, from an elaborate and exhaustive paper, by Dr. N. R. Morse, read at the American Institute of Homœopathy, 1877.

"Among the prominent diagnostic points should be mentioned a constant rubbing of the head to and fro, or a boring of it into the pillow, so that the occiput is often deprived of hair. Many children strike the head with their hands, pull their hair and ears, and even scratch their faces till they bleed, and cease to note objects or persons around them. The eyelids are half closed, and usually the globe is turned upward. The upper extremities are usually flexed, the thumbs drawn into the palms and the fists firmly closed. The lower extremities are also rigid, either extended or contracted, and the muscles of the nape so contracted that if the child is laid upon the side the body will curve far backward.

"Hydrocephaloid children vomit their food or drink immediately after taking it, and usually without retching or exertion. The temperature of the heads of those children who have become atrophic on account of profuse diarrhœa, and in whom cerebral symptoms have appeared, will be elevated, the anterior fontanelle depressed, the cranial bones overlapping each other, exhibiting all the symptoms of cerebral atrophy.

"The appetite fails or is slight in a majority of cases, or else a deathlike hunger comes on, and lasts till the child cannot swallow, and death ensues. The pulse, unlike that in tubercular meningitis, is extremely rapid, the respiration accelerated and unrhyth-

mical. In the first stage the child will cry continuously for days and nights in many instances, but in the second stage it is only able to utter low moans or single abrupt ones. Then follows the restlessness of exhaustion, next sopor and coma, finally death.

"Such is a hasty summary of those cases not recognized and arrested by appropriate treatment ere it was too late.

"The only disease with which hydrocephaloid is liable to be confounded is meningitis. The differential points in diagnosis are the history of the cases, especially the antecedent diarrhœic or other exhausting malady which induced prostration previous to the appearance of cerebral symptoms, with cold face and extremities.

"The differential diagnosis of hydrocephaloid or hydrocephalus acutus (tubercular meningitis) may be briefly tabulated as follows:

Hydrocephaloid.	*Tubercular Meningitis.*
1. *Age.*—*Usually* under one year of age, *rarely* over two.	1. *Age.*—Rarely under one year of age, usually from two to eight years.
2. Disease may appear as an epidemic, rare except during the summer and autumn.	2. Disease sporadic, and occurs at all seasons.
Mode of Invasion.	*Mode of Invasion.*
3. Follows after some exhausting disease, such as diarrhœa, etc.	3. A primary disease, ushered in by well-known prodromic symptoms.
4. *Symptoms.*—Vomiting and diarrhœa, with rapid exhaustion of vitality.	4. *Symptoms.*—Headache, vomiting, and obstinate constipation.
5. Fontanelles depressed and motionless.	5. Fontanelles prominent and frequently pulsating.
6. Pulse feeble and rapid, but regular.	6. Pulse *irregular*. At first accelerated, then retarded, and finally greatly accelerated.
7. Abdomen normal or tumefied.	7. Abdomen retracted and boat-shaped.

"There are points of practical importance in a correct distinction and diagnosis between hydrocephalus and hydrocephaloid. The former offers but little prospect or promise of relief under the best-directed treatment; the prognosis of the latter under timely

and well-directed treatment is much more encouraging. Then, too, the treatment suitable for the one would be wholly unsuited to the other."

Treatment.—This is largely hygienic, and specially dietetic. In this class of cases pure air, comfortable surroundings, equable, mild temperature, with good food, will cut a very important figure in any attempt at relief. For diet the mother's milk is preferable. If the mother has defaulted, procure a wet nurse, if possible. Fresh healthy cow's milk will be the next best source of supply. But I would most earnestly advise not to persevere with any diet or food supply that may produce nausea, vomiting, pain, or that passes the bowels undigested. The matter of diet, in faulty nutrition and digestion, is very much a matter of experiment in each particular case, whether among adults or children. Hence, in many instances, the only resource left will be a persistent course of experimentation. Well-boiled, filtered oatmeal gruel suits many cases well where the milk is vomited or purged in a clotted or coagulated form. A broth of parched wheaten flour does well in many cases. Condensed milk does perfectly well in some cases, and very badly in others. The various cereal compounds found in the stores do good service in many cases. Meat broths, exceptionally or for an occasional change, may do well, but as a steady diet will sooner or later produce disorder of the stomach and bowels.

Arsenicum.—This will be found a most valuable remedy in cases with hot head, cold extremities, attenuated flesh, thirst, restlessness; small, lienteric watery stools.

Belladonna.—Vigilance, delirium, injected conjunctiva, dilated pupils, flushed cheeks.

Ipecac.—Nausea, vomiting, large, watery stools, hacking cough.

Podophyllum.—Diarrhœa, with clay-colored stools, showing absence of bile secretion.

Mercurius.—Acrid diarrhœic stools, with excess of bile; with blood or mucus.

Calcarea Carb.—Large, frequent watery stools, with sour smell.

Coffea.—Sleepless vigilance; alone or in alternation with Chamomilla or Ignatia.

China.—Suitable to cases in which Arsenicum fails.

Ferrum.—Small frequent lienteric stools, bad-smelling urine, strangury, stools immediately after taking food.

Pulsatilla.—Fetid eructations, mucous diarrhœa, urine excessive, milky, strangury.

Stimulants may receive cautious trial, but in the end will be found at best of doubtful utility.

Much *bathing* will be found of very doubtful propriety. Twice or three times per week, hastily done, in hot salt water, with brisk friction afterwards to secure reaction, will be the best course. Under these precautions, should reaction be tardy or defective, the baths should be omitted altogether, and daily frictions in clean deodorized oil take their place. In some cases the water-bath and oil frictions on alternate days will be found a satisfactory plan. Any external local application must be so dexterously managed as not to produce fatigue or permanent calorific loss.

A most important item in any plan of management for city patients, is to send them to the rural districts. Send them to the upland localities in the country, to the lake shore, or seaside, as may seem best under the circumstances, but by all means get them out of the city; and, if possible, to a cool place, and where there are no *flies* or *mosquitoes*. Dr. Thayer's "Shoo-Fly" treatment of these cases has much to commend it, after all.

BRONCHOPNEUMONIA.

Bronchitis and pneumonia in adults are usually so blended and interlaced as to make the distinction difficult. The distinction, when made, is ornamental rather than useful, in any diagnostic,

prognostic, or therapeutic point of view. The rule being true with few exceptions in the case of adults, is almost without exceptions, in regard to infants and children. I propose then to treat the acute inflammatory affections of the lungs in children under the above caption. When we come to consider that

"Thin partitions do the narrow bounds divide,"

as between the pulmonary tissue on the one hand and the bronchial apparatus on the other, and that they are so intimately related for the accomplishment of an important vital function, to wit, the aeration and depuration of the blood, we need hardly feel surprised that they make common cause in any attempt to resist noxious influences, and that when overwhelmed by any hurtful or disease-producing influence they go down together, under a common catastrophe. I very well understand that this change as to nomenclature and classification is a somewhat violent inroad upon established usage; and yet, if one reads two chapters standing alongside each other, one devoted to infantile pneumonia, and the other to bronchitis, he finds himself much in the plight of the distinguished Dr. Drake, who confessed that while reading two adjoining chapters, one devoted to typhus and the other to typhoid fever, he found himself under the necessity of frequent reference to the caption at the top of the page, in order to determine which subject he might have under consideration at the time. This perplexing quality of tedium, repetition, and similarity, is not only true as to symptoms, but obtains largely as to pathological appearances, causes, termination, and treatment. Granting that there may be at the very outset some ground or even decided ground of distinction, the distinction will be found of only a few hours' duration; pneumonia becomes quickly bronchitic; bronchitis becomes quickly pneumonic. Possibly, there might be better grounds for a well-marked bronchitis alone; but I can scarcely conceive of a well-marked pneumonia without involvement of the bronchial apparatus also. In pneumonia, as commonly laid down in the books, we find among the early symp-

toms a peculiar excretion or expectoration of mucus, or mucus and blood, which must, in the very nature of the case, come from the mucous membrane, or through the mucous membrane lining the bronchi. Now, whether this excretion comes from or through the membrane, there must of necessity be a lesion of both structure and function in the part; so that while we have in the onset pneumonitis, we have almost or quite simultaneous bronchitis. Those cases of bronchial complaint, seeming only to involve mildly and separately the bronchial mucous membrane, ought not to rank among the phlegmasia; but should take a place among the slighter forms of disease known as catarrh and catarrhal fever. But we should constantly keep in mind the admonition found in all the books on these subjects, that these same cases of catarrh and catarrhal fever are consistently tending to involve our little clients in all the perils of bronchitis or pneumonia, or, as we propose under our present caption, bronchopneumonia.

Causes.—The disease is mainly caused by an intensified or exaggerated activity of the very same causes which induce catarrh and catarrhal fever, as exposure to cold, damp currents of air, insufficient clothing, sitting on the damp ground, etc., dietetic irregularities and abuses, resulting in impaired digestion and nutrition, operate largely as predisposing causes, and greatly facilitate the efforts of the immediate cause in the induction of the disease.

Symptoms.—Chilliness and rigors, followed by a somnolent condition of one to three hours, from which the child rises or awakes with all the details of violent fever, which constitutes the usual mode of attack. The skin is very hot and dry; the face, especially the cheeks, almost scarlet; dry cough, hasty respiration, with evidences of more or less pain in the respiratory effort, as evinced by a short, jerky movement, with moaning or frequent crying; thirst, restlessness; pulse quick, frequent, with that arterial thrill found in nearly all violent inflammations at the outset. At this stage of the symptoms, say within the first twelve hours, percussion elicits little or no indication of dulness, auscultation de-

tects little change in the respiratory sounds other than a hissing or whistling sound from dryness of the bronchial membrane, and increased frequency of the respiratory effort. Within twenty-four hours decided dulness on percussion at one or more points shows itself over the thoracic region. Auscultation points to much embarrassment in the atmospheric egress and ingress, and especially the latter, into the minute bronchial ramifications. This hindrance to respiration is at times the result of great engorgement and stasis of blood, sometimes from large secretory accumulations, sometimes from œdema, sometimes from simple collapse of the air-cells. This condition of parts constitutes the period of engorgement or first stage. If not quickly relieved, the second stage, red hepatization, follows; and the third, or gray hepatization, to wind up the scene in death. The period of engorgement is pretty readily detected by more or less dulness on percussion, with hindrance to the respiratory murmur, the function of respiration being performed but imperfectly and under embarrassment. In each of the hepatizations there is very decided dulness on percussion, with total absence of the normal respiratory murmur. Any considerable extent of either form of hepatization is necessarily fatal, not so much from the character of the morbid pathological condition, as from a loss of respiratory function and consequent non-aeration of blood. In pulmonary inflammation of strong, vigorous middle-aged adults, the cough, accompanied by voluntary effort to raise and expel the morbid secretions from the inflamed parts, is a source of much temporary relief. Besides, the opportunity to inspect the character and quantity of these products of disease gives valuable aid as to the various stages of the symptoms and indications as to the use of remedies. In infancy, from the want of muscular energy, a strong disposition to collapse of the air-cells, and the absence of anything like intelligent voluntary effort, very little temporary alleviation is obtained from raising the morbid products of disease, and absolutely none of it is expectorated or expelled. It may be raised in small quantities to the fauces, but it is immediately swallowed and passes

into the stomach, there to produce disorder in the shape of new and other inflammations, or most likely diarrhœa. This failure and inability to raise and expel these morbid products of disease adds greatly to the sources of peril and embarrassment. Blood aeration is additionally hindered; we are cut off from any therapeutic indications to be got from the character of discharge; new and other organs and functions of vital importance become implicated, by their being swallowed instead of expectorated.

The character of the discharge raised by coughing is serous, mucous, or sanguinolent, or all three combined, but with much less of the sanguinolent element in infancy than in adult life; the large preponderance being a sort of frothy appearance, consisting of a watery mucus filled with air-bubbles.

The indications of pleuritic complication are frequent, as in painful cough, short, jerky, partial respiration, tenderness and distress under percussion, fretting, crying, and moaning. The site of the inflammation is more frequent in the right than the left lung; more likely to be in the lower part of the lower lobes, and more probable in the posterior than the anterior portion of the lobe. When the inflammation attacks the lung in small discrete patches it is called *lobular;* when it involves an entire lobe, or any considerable part of it, it is said to be *lobar*. The former is supposed to be more frequent in children, the latter in adults. The *lobular* form may involve both lungs simultaneously; as a rule the *lobar* form will be confined to one lobe of one side. Any satisfactory reason as to these differences, as between the *lobe* and *lobule*, one lobe and another, or the two sides of the chest in this inflammation, has not been well established.

Percussion—Auscultation.—These sources of symptomatic information, so valuable in the adult, are less available among infants and very young children, who, from wilfulness or fright, raise such a commotion as to bring defeat in most cases. A partial opportunity for these purposes may sometimes be obtained while the patient sleeps. The information obtained is much the same as in the case of adults. Percussion, according to the state

or extent of the various stages of engorgement, red or gray hepatization, will give flatness and dulness of sound; pleuritic complication will be shown by wincing, from tenderness, all of which may be confirmed by comparison of the two sides. Auscultation in the earlier state of the case, say for twelve hours, will usually give the hissing or sibilant rhonchus, from haste in the respiration and dryness of the mucous membrane. By the end of twenty-four hours the rhonchus will be moist or mucous from excess of secretion. At an early stage the ear will detect the *crepitant râle*, a crackling sound, such as may be produced by sprinkling salt into the fire, or by rolling a piece of fine parchment, or by rubbing a lock of the hair between the fingers near the ear. This sound is supposed to be produced by the difficult ingress and egress of the breathed air through the bronchial cells, which have suffered impairment of calibre from collapse, engorgement, or excess of secretion. The absence simultaneously of this sound and the respiratory murmur with dulness on percussion, will demonstrate solidification from engorgement or hepatization. At this stage of matters we have *bronchial rhonchus*, produced by passage of air back and forth through the larger bronchi, rendered relatively louder as a sound by the absence of the normal respiratory murmur.

The three stages are: 1st, engorgement; 2d, red hepatization; 3d, gray hepatization. The post-mortem appearances under the state of engorgement, are mainly those of excess of dark, badly aerated blood in the tissues; thickening or intumescence; bronchial apparatus crowded and overloaded with mucus, or mucus and pus. In red hepatization, the parts are found solidified, from a thorough infiltration of red blood, which, in some cases, seems to have passed into a state of semi-organization. The part looks much like a piece of liver, from which appearance we have the term *hepatization*. In gray hepatization the parts are thoroughly unfitted for all or any act of function by solidification from infiltration of pus, the pus seeming to be furnished by and contained in an almost interminable number of small abscesses.

Bronchopneumonia may terminate in the first stage by resolution, repair, and recovery, in favorable cases; in unfavorable ones, fatally, by overloading the parts, and especially the bronchial apparatus, with excess of blood and secretion, to the great hindrance of the function of aeration, and from constitutional distress. Or the first may pass into second where, if the extent of tissue and surface be small, absorption of infiltration, repair, and recovery may take place; or, as in the first stage, a fatal termination ensues from constitutional distress and loss of function. If the third stage be reached, involving but a small amount of tissue, suppuration, expulsion, or absorption, cicatrization and recovery may be the result; if extent of involvement be considerable, exhaustion, with non-aeration and death. If the three stages be present in the history or progress of a given case they doubtless precede and follow each other in the order of enumeration. Modern pathologists describe a post-mortem appearance, which consists in a very extensive collapse of the extreme vesicles and air-cells of the bronchial apparatus, and which is supposed at times to be a fruitful source of fatality by loss of function or non-aeration of blood. Whether this condition of parts found in the cadaver be ante-mortem or post-mortem, may be a question, with probabilities in favor of the former, especially in very young subjects, as the muscular and erectile tissues at this tender age are but imperfectly developed, and frequently evince this tendency to collapse, as in asthma, catarrhus suffocativus, etc. Gangrene of the lung is probable and occasional, but not of frequent occurrence.

The mode of death in fatal cases is largely from a loss of function, constitutional distress and disturbance coming in to make up the complement of fatal agencies, but is second in importance to the loss of function; so that the old negro's opinion that a recently deceased person had died "for want of breath" may be eminently true in fatal cases of this disease.

Prognosis in this disease is decidedly unfavorable. In adult subjects of previous good health, with no complication, over the age of fifteen and under fifty years of age, I take it no case of

pneumonia or bronchopneumonia ought ever, or very rarely, to terminate fatally, if treated homœopathically. I have not lost a case for twenty years in a large and varied practice. In old age the chances and probabilities as to results are decidedly less favorable. What may be the precise explanation of this increased mortality under this disease, in old age and infancy and childhood, is not very apparent. A convenient mode of settling the question is, to attribute it to a relative want of local and constitutional vigor in early life, and corresponding loss of it in advanced age. Probably some default in power of the erectile and muscular tissues of the pulmonary apparatus in the two extremes of life, involving less ability to perform function under the embarrassment of disease, with less power of expulsion and expectoration as a means of relieving the parts of an offensive presence in the shape of mucus, blood, lymph, or pus, the usual products of inflammation in this disease, may properly come in as a more precise explanation of this relative mortality. Or, to make a long sentence short, children and old people, from some cause, have less power of expectoration than vigorous adults of middle life. For, undoubtedly, an effective and vigorous power of expectoration may do very much in this disease to disembarrass the two important functions, respiration and aeration, and for the want of which power many patients seem to die of a literal suffocation.

Diagnosis.—After having gone over the whole subject as to symptoms and peculiarities so thoroughly, we think it unnecessary to consume time under this head.

Treatment.—It is upon this arena that homœopathy has won its brightest triumphs, whether it be in the conflict with disease, or in a passage at arms with the orthodox modes of treatment. Bloodletting, blisters, mercurials, and nauseants, with the help of pneumonia and bronchitis, had slain thousands annually for many long years, until the benign help and influence of homœopathy came to the assistance of suffering humanity.

The chosen remedies for the treatment of the disease are few, simple, effective. Aconite, Gelseminum, Veratrum viride, Bel-

ladonna, Bryonia, Phosphorus, Ipecac., Kali bichromicum, Mer. iod., each serviceable and important in its place, and all taken together, constituting a noble phalanx in the management of a dangerous and difficult disease.

Aconite.—First stage, hot, dry skin, arterial thrill, sibilant rhonchus, hasty respiration, agitated manner.

Tartar Emetic.—I am usually so anxious to bring this remedy to bear that I rarely resist the temptation to alternate it with the Aconite. It is undoubtedly nearer the similimum than any other. Both provings and experience go to establish this claim. The allopaths under the leadership of the distinguished Laennec have given it in enormous quantities,—ten grains to two drachms in twenty-four hours. Perhaps they have cured some cases and killed a good many.

The prominent indications for its use are: loose mucous cough, great oppression and haste in respiration, crepitant râle, mucous rhonchus, anguished expression in the face, constipated bowels. We think it occupies much the same place here as the Deutiodide of mercury in diphtheria, and that in the main it should have a prominent permanent place with the other remedies to alternate or revolve around it.

Veratrum Viride.—Vehement fever, threat of convulsions, great frequency of pulse, delirium, insomnia, coma.

Gelseminum.—Moderate phase of symptoms, fever remittent, pain at nape of the neck, nausea, vomiting.

Bryonia.—Short, jerky, incomplete respiration, thoracic tenderness, pain from cough or motion of the body. This is a most valuable remedy in its place. Its range of symptoms is not large, but the result is prompt and certain.

Belladonna.—Flushed cheeks, playing of the alæ nasi, dry cough, delirium, vigilance.

Phosphorus.—Incessant, short, dry, hacking cough, scant secretion in the bronchi. Crepitant râle. This is a most valuable medicine; it alternates well with Belladonna.

Mercury.—Dulness on percussion, absence of respiratory

murmur, absence of crepitant râle, bronchial rhonchus, livid expression of countenance, general flagging of the vital energies; all indicating solidification of the part involved.

The Biniodide of mercury, Kali bichromicum, Spongia, Hepar sulphur, may find places of usefulness in approaching convalescence for hard, barking, laryngeal, tracheal, or bronchial cough.

Arsenicum, alone or in alternation with Tartar emetic, will be called for under impending suffocation from pulmonary œdema, emphysema, or capillary collapse.

Ipecac.—Much loose cough, nausea, vomiting, diarrhœa.

As a palliative we have seen most satisfactory results from the systematic application of warmth and moisture over the chest, in the shape of a bran poultice or flannel wrapper out of hot water.

Under impending suffocation, palliation and valuable time may be gained, for use of the indicated remedy, by the prudent exhibition of such diffusible stimuli as brandy, wine, ammonia.

Convalescence must be guarded with great vigilance to prevent relapse, which may bring great peril immediately, or pass more remotely into a chronic form of the disease.

CROUP.

This disease, from its frequency, violence, and danger, takes front rank in importance among those incident to childhood. It is a violent acute inflammation of the larynx (*cynanche laryngea*) and trachea (*cynanche trachealis*), with a membranous exudation, of a fibrinous character, on the mucous membrane of the parts, in more than a majority of cases. Laryngitis is of frequent occurrence among adults; tracheitis is very rare; infants and children rarely have one without the other. To this joint inflammation of the two parts the English name croup has been given. From the fact that the hoarse, ringing, metallic cough is usually the first warning note, it would seem probable that the inflammation starts

primarily in the larynx and then quickly spreads, through continuity of structure and function, to the trachea.

Croup has nothing of peculiarity as to its historic prevalence. It has been a recognized form of disease peculiar to infancy for hundreds of years. The suddenness of the onset, the violence and occasional rapid progress of the symptoms towards a fatal termination, have ever made it a just source of terror and apprehension to families, as well as matter for vigilance and grave apprehension on the part of the physician. A very large proportion of the cases occur before the fifth year of childhood. The disease is of very rare occurrence before the sixth month, and rather infrequent before the end of the first year of infantile life. The limits between the first and fifth years may be set down as the age most obnoxious to attacks.

Symptoms.—The child upon being put to bed for the night is found to have just the slightest appearance of feverishness, but falls asleep, and nothing further is noticed or expected until about the middle of the night it awakens suddenly in high fever, cries with hoarse husky voice, and almost at once gives the unwelcome warning note of danger and peculiarity, by a hoarse, abrupt, ringing cough, sounding much as we do when we pronounce the word c-r-o-u-p; and which on the principle of onomatopœia, is supposed to have given name to the disease. This cough need be heard only once to be forever afterwards recognized. The mother or nurse will probably send you word when the call is made for your professional service, that the child has croup, basing the opinion or information upon the peculiarity of cough. The skin is hot; face flushed; pulse hard, bounding, and frequent; manner tossing and restless, or dozy and sleepy, except when aroused by the hard, dry, painful cough; respiration hasty, frequent, with crowing or purring sound. At this particular early stage of symptoms the disease is usually confined to the larynx and trachea; but if neglected or mismanaged may spread rapidly upward and forward into the faucial and pharyngeal cavities, or downwards and onwards to the bronchial ramifications and into the true pulmonary

parenchyma, and give a fearful complication of croup with bronchopneumonia. A somewhat noteworthy peculiarity in this disease is a tendency to termination, whether favorable or adverse, in an average duration of sixty to seventy-five hours. In manageable cases under judicious treatment they are relieved; in bad, unmanageable, or mismanaged ones the result is death. Of course, this rule is like most others, has a considerable margin of exceptions, so likewise the rule as to occurrence of first symptoms in the night-time.

At first the cough would seem to indicate deficiency of secretion, but very early in the case the cough will be characterized by the expulsion of a thick, ropy, tenacious matter, not exactly mucus, water, or lymph, but rather a combination of all three. Encroachment upon the calibre of the laryngeal aperture, from intumescence of the glottis and epiglottis, together with similar intumescence and accumulation in the trachea, render respiration noisy, laborious, and difficult. In grave and violent cases, the inflammation extending through the mucous membrane implicates the cellular and other submucous tissues, with the result of a tough, tenacious, fibrous exudation upon the mucous surface, which, in turn, by additional encroachment upon the laryngeal and tracheal calibres, serves to render respiration more and more difficult, until suffocation becomes threatening, imminent. This constitutes the *membranous* from of the disease, so justly to be dreaded. The presence of this membrane will be indicated by the great violence of the symptoms, especially the difficult respiration, difficult expectoration, with now and then the expulsion of bits which may be detached. Having the concurrence of the little patient for a local examination, with the tongue well depressed in a good light, we may frequently see the membrane *in situ*, on the glottis and epiglottis. The membrane becoming generally detached, may be expelled, giving almost an exact mould of the cavities and passages, and require the help of an assistant to further the expulsion, or the patient may die outright from choking and suffocation. Failing to detach and

remove this exudation, respiration becomes rapidly more difficult, the features become livid, and the child dies suddenly with all the horrors of asphyxia; or the badly aerated blood *carbonizes* the brain, coma supervenes, and the little sufferer sinks somewhat more slowly, but surely, into the embrace of the grim monster. Under this grave aspect of matters *percussion* will reveal much dulness over the tracheal region, which may pervade more or less the entire upper portion of the thorax, as the disease may or may not have extended to the binary and tertiary tracheal divisions. *Auscultation* will reveal much embarrassment to atmospheric ingress and egress, with a noticeable hissing or sibilant sound.

In a certain mild form of the disease the symptoms are paroxysmal and periodical. Coming on at an early hour of the night, say from ten to twelve, they prevail for the remainder of the night, with marked abatement in the morning and for the entire day, to return at the appointed time the following night, and so on for about three paroxysms, each being successively milder. I have never known these cases to terminate fatally; they rarely become violent even during the more decided paroxysm. They do not present membranous features.

Pathological Appearances.—Examinations upon the cadaver show these to be what we might anticipate from the history and symptoms during life. The larynx, trachea, and its primary divisions are loaded with the membranous exudation, mixed with more or less mucus and serum. The membrane may be everywhere adherent, or in places partly detached and lying loose in the tube. There is much engorgement, intumescence, and lividity of the lining membrane. Ulcerative appearances are not usual, as death generally anticipates this result of inflammation. In many cases the evidences of pneumonic and bronchitic complications are abundant and evident.

Causes.—This disease is produced by very much the same causes as catarrhal fever and bronchopneumonia; damp, wet weather, strong currents of air, especially while asleep, insufficient clothing, as from bare neck or feet, prevalence of snowstorms, the

rapid melting of large snow and ice accumulations, sudden changes from warm to sharp frosty temperature.

Diagnosis.—The only other disease for which this may be mistaken is diphtheria. Croup is a localized, acute, inflammatory form of disease, not constitutional as to any taint, nor contagious; is bold, abrupt, and as it were outspoken in manner and character; is rapid of progress, and terminates quickly, in two to four days, in recovery or death. There are few or no sequelæ. The cough is very marked and peculiar. In croup there is rarely pharyngeal or faucial invasion; there is never any nasal complication. Diphtheria is a zymotic, constitutional blood disease, is in many instances believed to be contagious, is undoubtedly inoculable, by application of matter from a diphtheritic part to the mucous or denuded surface of a healthy subject. The diseased appearance in the larynx or trachea is simply an outcropping of a previous constitutional taint. The outcropping is not confined to the larynx and trachea, but may show itself in the nose, throat, eyes, ears, and even upon the cutaneous surface, wherever there may be the slightest break of integrity or denuding of surface. The deposit is gray ash-colored, as seen in the larynx and on the tonsils; that of croup whitish, and about the larynx. In contradistinction to croup, with its bold, outspoken manner, diphtheria is sneaking, insidious, and undefined in its mode of approach. You shall sometimes have your little patient moping about, with slight, but no well-defined illness, for several days, before anything characteristic can be detected, either generally or locally. I have recently seen two cases, where the symptoms were simply those of a mild remittent, yet each in due time developed the peculiar symptoms of a malignant and fatal diphtheria. It is of the first importance to young medical men, and, indeed, for older ones, not to mistake a case of diphtheria for one of croup, as matter of both treatment and reputation. Be on the alert, then, for the distinction between the two diseases is not always easily made.

Prognosis.—In the milder forms of croup, under homœopathic

treatment, you may safely promise a favorable and early termination. In the bolder and more violent forms, especially in fat, plethoric children, you must be more guarded and cautious, as unfavorable results will frequently follow under the most skilful and diligent management. In bad cases the source of embarrassment consists in the exudation upon the mucous membrane of a tough, semi-organized, lymphy membrane. This form or variety of the disease does not seem to differ in kind, but in violence, from milder attacks. The membrane in favorable cases becomes detached, and is expectorated or thrown up in quantities, greater or smaller, as the case may be, but presenting always its distinctive peculiarities, and which, like the cough of croup, needs only to be seen once, to be readily remembered and recognized ever afterwards. Should this exuded membrane be present in large quantities, and from the firmness of adhesion, or debility of the child in expulsive effort, fail of being dislodged from the air-passages, its presence, together with the swelling or intumescence of parts, chokes up the respiratory passage, and death takes place literally from asphyxia. In this connection it may be proper to repeat that those cases of croup which oscillate and alternate between mildness and violence, usually get well; under anything like timely and judicious management, and that the unpromising cases are those which begin violently and seem obstinately to make progress in spite of treatment towards a fatal termination.

Treatment—Aconite.—Hot, dry skin; hard, thrilling pulse; much dry cough; agitated manner; delirium.

Tartar Emetic.—Much oppression in respiration; free, ropy expectoration; moist, noisy respiration; faucial irritation. Alternates well with Aconite from the start. These two remedies are the very best in combating this disease, whether in the milder or worst form.

Spongia.—After Aconite and Tartar emetic for hoarse cough without fever; aphonia.

Biniod. Mer.—Much cough, with partial expectoration, after Aconite and Tartar emetic.

Kali Bichromicum.—Obstinate, hard cough, with evidences of faucial irritation.

Hepar Sulphur.—For the remnant of symptomatic *debris* that may be found on hand towards the conclusion of the case, mainly in the shape of a cough, which seems rather irritative than inflammatory.

Emetics.—In cases of membranous croup, I am much inclined to the opinion that time, opportunity, and palliation may be advantageously gained by the occasional exhibition of a brisk emetic, which, during the expulsive act of emesis, acts mechanically to expel the hindering membrane from the air-passages. Of course, such a temporary mode of management to meet an impending suffocation would only be regarded as mechanical and palliative, and not in any sense curative.

Stimulants.—In the event of great exhaustion of vital power and a want of muscular energy of an expulsive power to clear the air-passages, a discreet use of such volatile and exhilarant agents as brandy and ammonia may well come into play as palliatives and to gain time. Should the patient be of such age and intelligence as to co-operate in the matter, we may undoubtedly gain both palliative and curative advantage, from the moderate and frequent inhalation of Iodine, Chlorine, Bromine, especially the first, in cases with much suffocative trouble, and more particularly where the difficulty seems dependent more on a spasmodic and constrictive condition of the passages, than on inflammation and exudation. Local external applications do not seem to promise much in this disease, except in cases of vehement fever and a highly sthenic form of the disease, when the frequent application of compresses dipped in cold water, and applied to the chest and throat, seem to act by way of palliating such vehemence of action, while the proper internal treatment is being brought into play.

Tracheotomy as a forlorn resource is to be looked to as a *dernier ressort* in bad and unpromising cases.

LARYNGISMUS.

It may be as well to say here what ought to be said on a subject, in some respects kindred to the one which we have just disposed of, known as *spasmodic croup, laryngismus stridulus.* It is to all intents and purposes a nervous or spasmodic affection of the larynx, and particularly the glottis and epiglottis, without inflammatory manifestations. It might, with much propriety, be called an asthma of the larynx. It bears in many respects a strong resemblance to a tetanoid condition of the muscular and nervous system of other parts and localities. It is peculiarly an affection of slender nervous children, with highly wrought sensibilities and large brain. It is generally symptomatic of, and sympathetic with, an irritation, either near or remote, in other parts of the body, as teething, gastric disorder, worms, suppressed cutaneous eruption, fright. It has only two features bearing any resemblance to croup,—difficult, noisy respiration, and a stridulous, dry, hard cough. The cough probably bears as much resemblance to whooping-cough as to croup. The cough and the difficult respiration both depend upon the constricted or spastic state of the larynx at its upper outlet. This group of symptoms presents rather an ugly front at the time, but is rarely serious, either in duration or result. It may prove troublesome and annoying from the establishment of a perverse habit or disposition to return on slight provocation.

Treatment.—Of course, whenever this disease is the result of any remote or neighboring irritation, such irritation, together with its cause, should be removed, as far as possible, as an important means of relief. As internal remedies we should look to such neurotic agents as Ignatia, Chamomilla, Nux vomica, Musk, in low attenuations, and at short intervals. Also, gentle inhalations of Iodine, Chlorine, Bromine, and in case of emergency Chloroform. To prevent recurrence and the establishment of any morbid habit of the sort, all exciting causes should be avoided and removed, and diligent attention given to all the hygienic appli-

ances for promoting the general health. A favorite domestic application in these cases is a "snuff plaster," and which, though a somewhat violent and disagreeable one, it must be confessed at times gives almost immediate relief. A large sinapism over the chest and throat will give much palliative and even temporary quick relief, while the slower but important internal treatment is being brought to bear.

CATARRHAL FEVER.

By *catarrhal fever* is meant a state of vascular engorgement, irritation, and increase of sensibility of the mucous membrane lining the nose, throat, larynx, trachea, and bronchi, but without that pronounced vehement quality constituting well-marked inflammation. Its prevalence is mainly during the harsh, severe weather of the winter season, and particularly about the time of those atmospheric changes and sudden oscillations back and forth, as to moisture and temperature, incident to the transition from winter to springtime.

Symptoms.—At first the child is supposed to have a "cold." It shows signs of chilliness; is inclined to nestle near the warm body of another person; gets nearer the fire, or asks for additional clothing. In a little while this stage of chilliness passes off and is succeeded by fever, in the shape of hot, dry skin, flushed cheeks, haste of respiration. At first there is slight hacking cough, and if the child be old enough to communicate, it will speak of sore throat, and probably pain or oppression in the chest. The tongue is covered with a white, clammy coat; the stomach evinces decided sympathy, in the manifestation of nausea, and sometimes vomiting; the appetite fails; the breath is fetid; and if fever be decidedly high, delirium will be probable. Percussion rarely indicates dulness; but auscultation, as well as the loose mucous cough, goes to show the presence of a largely increased secretory function on the part of the mucous surface of the parts. Look-

ing into the throat we find redness of the fauces, swelling of the tonsils, with difficult deglutition. The eyes are red, sensitive to light, and weep profusely. In many cases sneezing, especially at the onset, is almost incessant. When this disease assumes an epidemic form it answers to the *influenza* of the books, and the "*Tyler grippe*" of the people.

Diagnosis.—In some cases it is very difficult to diagnose between catarrhal fever and measles. Nothing short of the appearance or non-appearance of the eruption peculiar to measles will settle the question.

Prognosis, in simple, sporadic, endemic forms of the disease, is ordinarily quite favorable. When it assumes an epidemic form there is sometimes a strong tendency to collapse and prostration, when of course the prognosis is much less favorable. This tendency to collapse or sinking West attributes to nervous complication or complexion of the symptoms. Badly aerated blood, having no suitable power to stimulate capillary and cardiac action, would seem a more plausible speculation or explanation.

Cause.—Sporadic and endemic forms of the disease are attributable to sudden atmospheric changes, exposure in cold damp places, strong currents of air, sitting on the damp ground, insufficient clothing. There is reason to believe that impairment of the digestive organs at and immediately before the time of exposure to the foregoing causes, greatly predisposes to the attacks of the disease. While the causes enumerated are amply sufficient for the production of sporadic cases, there is reason to believe that a peculiar occult influence has the lead in setting up an epidemic prevalence, however much the first-named causes may contribute to and co-operate with this peculiar epidemic constitution in bringing about its results.

Complications.—For the want of prompt, effective treatment the symptoms may pass quickly from a condition of irritation into a state of inflammation, giving rise to pneumonia, bronchitis, or bronchopneumonia.

Treatment—Gelseminum.—This will be found our sheet-

anchor in the way of treatment. It should be given at the onset. Frequently no other remedy will be needed. A tendency to remission and periodicity in the fever will additionally indicate the medicine.

Bryonia will be indicated by a rather dry hacking cough, with pain during cough, and short, suppressed, jerky respiration.

Veratrum Viride.—Violent fever, very frequent pulse, delirium, convulsive threatening.

Tartar Emetic.—Loose mucous cough, difficult respiration, much soreness of the throat, nausea, constipation.

Ipecac.—Much cough, nausea, loose bowels.

Kali Bichromicum—Biniod. Mer.—Hard, barking, laryngeal, tracheal cough, obstinate faucial irritation.

Phosphorus.—Dry, teazing cough, without fever and with but little expectoration.

A Chest-wrapper, wrung out of hot water and worn constantly around the chest, will give much advantage in mitigation of pain and fever.

DIPHTHERIA.

This is a febrile disease, with certain local inflammatory manifestations upon the mucous membrane of the tonsils, pharynx, soft palate, larynx, trachea, nose, and sometimes the ears and eyes. The seat of inflammation is specially characterized by a grayish coagulated exudation or deposit looking much like a mixture of curdled milk and wood-ashes.

Occasional allusion to the disease may be found running through the literature of the profession far into the remote dates of antiquity. These allusions involve a good deal of dubiety and obscurity, as the ancient and later writers found themselves beset by a difficulty which environed the subject then, and continues to embarrass investigation and practice at the present time,—the difficulty of making a distinction between croup and diphtheria.

While infancy and childhood furnish very much the larger proportion of cases, adults are by no means free from the risk of attacks, but the disease as a rule is milder in adults than in childhood. The very early months of infancy are quite exempt. I do not now remember ever to have seen an infant under twenty-four months of age attacked. There is undoubtedly an agent or quality of contagion, propagated from the sick to the healthy child, who may be so unfortunate as to be in the immediate neighborhood, though the certainty that this contagion will be effective in the production of new cases, is much less than in cases of exposure to small-pox, measles, whooping-cough, etc. The period of incubation is variable, ranging from three or four to eight or ten days. Whether the poison is propagated by transference of a ponderable, visible quantity, from the source of contagion to those in a state of health, or atmospherically by some subtle gaseous efflorescence, is by no means well determined, though the probabilities seem favorable to both modes of communication. While the disease is undoubtedly communicated by means of contagion, it is quite evident that many cases originate *de novo*, or in the absence of any known or probable communication between the party recently attacked and any known or probable source of contagion. Undoubtedly, one of the surest modes of communication is by a process of inoculation, as evinced by the readiness with which surgeons, nurses, and others contract the disease, from having particles of diphtheritic matter accidentally thrust into the mouth, eyes, or upon any abraded or wounded surface while in attendance upon the sick. Numerous cases of contagion are on record, by having the matter, expelled from the throat of the struggling patient, into the eyes or mouth of the medical attendant during examinations, or while making topical applications to the diseased parts. I think it may be safely affirmed that those adults who may be placed for any considerable length of time in close or intimate contact with diphtheritic patients, are liable to a mild, local manifestation of symptoms in the faucial region of a diphtheritic character; just as we have

pseudo variola and pertussis, from long-continued exposure of healthy persons not liable to any constitutional infection. This bastard form of disease is purely local, not constitutional, and exhibits few or no other symptoms than those local in character. That period of time between the reception of the poison of any contagious disease into the system and the time of first symptomatic manifestation, is called the period of incubation. In several of the contagious diseases this period of incubation is of pretty regular and definite duration. In diphtheria it is irregular, and varies in duration from three to seven or ten days.

Diphtheria is classed among the *zymotic* diseases, whatever that term may mean. By it pathologists, histologists, and scientists are agreed to indicate a disease-producing principle in the nature of a ferment, whereby, when the very smallest conceivable particle shall have been introduced into the system, it is so capable of self-propagation and multiplication, that the entire system may become so thoroughly saturated as to result in certain violent reactions which we call disease. Whether this supposed ferment or disease-producing principle makes its primary impression upon the nervous system, or on the blood or tissues, or all three, or neither, is matter of speculation; but the most plausible or probable speculation is, that a very early, if not the very first, impression is upon the blood.

Symptoms.—The inceptive symptoms are frequently very deceptive, and give little or no premonition whatever as to the very untoward and unwelcome immediate future. For many days prior to anything characteristic, you shall find your little patient just a little out of condition, as the phraseology goes, as indicated by impaired appetite, poor sleep, slight alternations of rigor and fever, furred tongue, fetid breath; and if at the malarial season of the year, or in a malarial locality, you readily fall into the theory that you have a case of malarial remittent. Probably the first intimation that puts you on the alert will be the sudden appearance of noisy respiration in sleep, or thickness of speech, or difficulty of respiration, or difficult deglutition, or hoarse cough,

some one of these, or all together. Upon making a faucial and laryngeal examination you find specks or patches of an ashy-gray coagulated coating, surmounting a bright, shining, scarlet mucous membrane. Upon removal of this coating you have exposed a surface of impaired integrity, but not exactly raw or ulcerated. Should these patches of coating be of small area, and confined to the tonsils and adjoining faucial parts, we have a simple, mild, and manageable disease. But should you find these patches large and thick, and inclined to extend into the pharynx, larynx, and trachea, with hoarse cough and difficult respiration, the case is one of serious gravity, and the prognosis exceedingly unfavorable. The patient may not, at the time, or for some days, manifest very great discomfort, but let not these deceptive appearances mislead you as to the danger, which may become imminent and sudden within any two or three hours. Sometimes the febrile and local symptoms present themselves simultaneously and very suddenly in great violence. There is nearly always in decided cases more or less swelling of the cervical glands. The symptoms at the outset, especially in robust children, may be decidedly sthenic; but if the case be one of anything like decided violence and duration they soon assume the asthenic type.

Perhaps there is no spectacle in the way of humanity's bodily maladies that presents so pitiable a plight as a bad or malignant form of this disease. The entire cervical and submaxillary region becomes enormously swollen; the ichorous, excoriating discharges pour in profusion from the mouth, the eyes, and nasal passages, and in their passage over the cheeks and lower portion of the face excoriate and inflame the cutaneous surface; the eyes glare with distress and anxiety; respiration is imperfectly performed with the greatest difficulty; the attitude in bed is one of incessant motion and unrest, in quest of change of position which may bring an alleviation that the poor sufferer is doomed to attain only in death. A malignant case of scarlet fever is its only analogue; to which by the way it bears a marked resemblance minus the scarlet rash. In a certain malignant tracheal form of the disease, few or

none of these hideous appearances are present, with little other personal inconvenience than cough, difficult deglutition, and embarrassed respiration. The patient will insist on being dressed and allowed to get out of bed and walk about the room; will call for its toys, take food, and sit up in bed, or get on foot within half an hour of its death. Such cases are very deceptive, and sometimes bring humiliation to the physician, who may have entertained and expressed a hopeful view of the case.

Cause.—This branch of the subject is involved in much doubt and obscurity. In many cases the disease is undoubtedly communicated, in the mode or manner of contagion, through atmospheric conveyance and inoculation. The mode by inoculation is so effective that the patients will in many instances inoculate themselves by transferring the matter from the primary seat of disease to some remote part of the body where there may happen to be a break of integrity in the cutaneous surface. We have already alluded to the experience of nurses and physicians in having the matter thrown on an abraded surface, or into the eyes or mouth.

Bad sanitary surroundings are supposed to serve as cause to the disease; but as we have so much disregard of the laws of health in communities where the disease rarely or never occurs, and as we find it of frequent occurrence in a most malignant form where the hygienic surroundings seem to be of the very best, we conclude that this view as to causation is partial and insufficient. Scientists have kindly come to the rescue at this point, and attempted to relieve the pressure of ignorance on one professional shoulder by transferring it to the other in the shape of the *zymotic* theory of causation in disease. As a speculation it is plausible and convenient; but in point of fact and demonstration there is much room for future observation and research.

Diagnosis.—Croup is the only disease at all likely to be confounded with the one under consideration. As we have already gone over this ground in the chapter on Croup, we shall content ourselves by borrowing the following table of comparison from Dr. West:

"CROUP.	"DIPHTHERIA.
"Is influenced by climate and season, is endemic in some localities, but not epidemic nor contagious.	"Is independent of climate or season; contagious, and often epidemic.
"Is apt to recur, though with diminishing severity, in the same patient.	"Has no special tendency to recur, though an attack confers no absolute immunity.
"Is almost limited to childhood; of very rare occurrence in the adult.	"Though specially frequent in childhood, adult age has no exemption from it.
"Usually begins with catarrh and fever, which latter is always proportionate to the severity of the local symptoms. Dysphagia rare, slight, always secondary, and subordinate to the laryngeal affection.	"Catarrh rare. Symptoms of constitutional disorder often severe from the very outset. Sore throat and difficult deglutition precede laryngeal affection, which is often slight, and sometimes altogether absent.
"Glandular swelling and coryza always absent. False membrane on fauces very rare, not extensive.	"Glandular swelling always, coryza often present; deposit of false membrane on tonsils always occurs at some period, often very extensive.
"Constitutional disorder always in proportion to the gravity of the local mischief. No albumen in urine, nor any sign of general blood disorder.	"Constitutional disorder often quite out of proportion to the local mischief. Albumen present in the urine, and various evidences of blood disorder.
"Death always from apnœa.	"Death from asthma and various disorders of the nervous system.
"Has no sequelæ, complete recovery following cure of local affection."	"Has many sequelæ, and specially a peculiar form of paralysis, which may continue for months after the disappearance of every sign of local ailment."

The presence or absence of the scarlet rash will ordinarily be the diagnostic sign as between this disease and scarlet fever, though in occasional cases diphtheria has been known to furnish the rash.

Prognosis.—In those very mild cases characterized by scant, slight patches on the tonsils, with no constitutional disorder, the prognosis may nearly always be set down as favorable, though I saw a case recently in which the deposit and symptoms took a sudden dip into the pharynx, larynx, and trachea, with fatal termination. As a rule the prognosis in this disease should be regarded as very unfavorable.

The post-mortem appearances are such as might readily be anticipated from the symptoms during life. The nasal, laryngeal, pharyngeal, and tracheal cavities, are loaded to suffocation with a dirty, ichorous compound of lymph, pus, serum, mucus, and blood. The solids and fluids of the body generally show a marked tendency to putrescency, the blood specially showing marked indications as to poverty, disorder, and decay. In those cases characterized by albuminous urine, the kidneys present strong evidence of change and decay.

Duration.—This may vary from two or three days to as many weeks or even months; and in some instances an impaired or perverted state of constitution may be entailed for years, or the remnant of a good long lifetime.

Treatment.—The management of the simple, very mild local form of the complaint is usually easy. Such excellent remedies as Belladonna, Mercurius, Tartar emetic, relieve them in 24 to 48 hours. My friend Dr. Gundelach, a prominent German practitioner of this city, informs me that he treats them very satisfactorily with Nitric acid. That there is a wide feeling of disappointment and discontent in the profession, with the remedies and modes heretofore adopted in the way of treatment for the bad cases, is evinced in the fact that periodically there comes to the front a sure cure, which has not been known to fail in a single instance. Each of these sure cures is in turn supplanted by its successor, and so on. I am decidedly of opinion that the weight of authority, backed by the best experience, is in favor of the *Biniod. of mercury* as the *similimum* in the treatment of these cases. It should have place at the start, and continue in the main throughout the case. Other remedies may come into play as alternates, but in my judgment they should all revolve around the Biniod. as the central figure in the play. It should be given at short intervals, and at a low potency, say the 2d or 3d decimal trituration. Of course as the symptoms may abate the intervals should be made longer. We repeat, the toxical effects of Mercury upon the human organism, together with the special tendency of the Iodide

to expend its force upon the organs involved in diphtheria, with the most trustworthy experience, all go to show it to be the best remedy now in sight in the treatment of this most fearful disease. For the violent constitutional febrile commotion at the outset the *Gelseminum* should be alternated with the Biniodide. When the fever shall have subsided it may be discontinued, but the iodide should be continued. Any show of delirium, with difficult deglutition and scarlet fauces, will call for Belladonna.

A hard, croupy, barking cough may require *Spongia* or *Kali bichromicum*. A tendency to putridity with sinking of the vital powers will indicate Arsenic. A certain debris of symptoms, which will be found in many of these cases, to stand just on the confines between disease and convalescence, may be properly trusted to *Hepar sulphur*. A tardy, unrelieved remnant of ulceration in the throat may be promptly cured in most cases by the *Chloride of lime*. The *Permanganate of potash* serves as a valuable aid in the cases where the Chloridi calcis fails. In the March number of the *American Observer* for 1880, there is a most interesting paper by M. Teste, of Paris, detailing his long, successful, and extensive experience in the use of *Bromine* in diphtheria. He gives two to three drop doses of a watery solution in very sweet water, at intervals of ¼ to 2 hours. The strength of the solution is 1 grain to 100 drops of water. He also advises vaporization of the medicine freely in the sick-room, both as a further means of cure, and as a prophylactic in behalf of nurses and other attendants. M. Teste is not alone in his advocacy of this remedy. Indeed we think it probable that next to the Biniodide, it may prove our best medicine in this disease. The eclectic physicians attach great importance to the Phytolacca; they use it both internally and locally. We believe pretty much all schools of medical practice are now agreed as to the hurtfulness of strong caustic applications. Any topical application should be mild and soothing, with a view of cleansing the parts and rendering the patient locally more comfortable. They have absolutely no effect in controlling the course of the disease in the way of curative effect. Probably the Alco-

hol spray recently much in vogue answers the purpose about as well as any that has been proposed. Where the patient's concurrence can be had, an Alcohol gargle cleanses the parts very well. So do table-salt and Chlorate of potash in solution.

The *convalescence* from this disease, where there are no *sequelæ*, is usually tedious and difficult. It will require the greatest care in all that pertains to good hygiene generally, and especial circumspection as to nutritious, digestible diet. The preparations of Phosphorus and Lime answer a good purpose during this stage, and seem to act more as nutrients to build up the wasted energies than as medicines.

As before intimated the *sequelæ* in bad cases are liable to be numerous, obstinate, and violent; these are otitis, ozæna, ophthalmia, aphonia, aphasia, imbecility, paralysis, albuminuria. These will each require special and diligent, protracted, thoughtful attention, according to complication or individual peculiarity of the case.

WHOOPING-COUGH.

This is a contagious febrile disorder, with special, peculiar manifestations in the respiratory apparatus. But for these local manifestations it might with as much propriety be classed and treated among the neuroses as in the present connection. It is undoubtedly very much of a nervous disorder, both in its special pathology and most obvious symptoms. Its great prevalence in all climates, seasons and localities, its occasional violence and complications, make it a subject of much interest to the parent and physician.

It is eminently a disease of childhood; as, from their great susceptibility to the disease, nearly all have it by or before the third to the fifth year, and being of the nature that one attack gives exception from recurrence, we find few adults who have not already got their exemption by a childhood's experience of the disease.

Those adults who have failed to have it in childhood from want of susceptibility, usually retain their insusceptibility at adult age; so that you will very rarely meet with a grown-up person with whooping-cough. The duration and violence are much under the influence of season. For instance, if a child take the cough in September or October, you may safely calculate that the climatic vicissitudes and hardships of the wintertime, together with the occasional catarrhal additions and complications incident to the season, will surely protract the disease until the warm perspirable weather of the ensuing springtime; or if the child contract the disease during an active teething process, the chances are in favor of complications and protracted duration. In mild and uncomplicated cases the disease is strongly inclined to run a uniform course of three to four weeks; in violent and complicated cases the duration may be much longer. But it is simple justice to state that homœopathic treatment, in many instances, so promptly mitigates the disease, as with some people to have the reputation of cutting it short. This disease is eminently neurotic in its nature, though usually ushered in by a preliminary febrile disturbance without inflammation. It is the product of a subtle contagion or poison, of the nature and character of which we have not the slightest knowledge or appreciation, except by its power to produce disease. The contagion is exceedingly active or effective, so to speak, as few unprotected children escape who may be exposed to its action. The period of incubation averages about nine days. It is diffusive in its range of activity, so that children who live across the street or on adjoining lots may contract the disease from one another though situated some hundreds of feet apart, differing in this respect from itch and venereal, which require positive contact of surface with surface, or transference of ponderable tangible secretion from the sick to the healthy, to produce a new case. Another notable peculiarity of this poison is its activity at all periods of the year, and in all localities as to latitude or longitude. Its spontaneous or *de novo* origin is not so apparent as in the poison of diphtheria, as we

can generally trace any new case to its origin, from a source of contact or neighborship with one having the disease.

Symptoms.—These are so precisely like those of catarrh and catarrhal fever as frequently to leave us in doubt as to the true nature of the case, until the peculiar diagnostic *whoop* in cough ing makes its appearance. These catarrhal preliminaries may last from three to seven or ten days before the whoop makes its appearance. Soon after the whoop is well established the febrile and other catarrhal symptoms subside, and the case resolves itself into one of violent paroxysmal whooping-cough, with more or less gastric disturbance and coryza at time of cough. In mild cases, and under favorable circumstances and surroundings, the disease usually runs its course in about three weeks. Under less favorable surroundings, and under probable complications, the disease may linger somewhat indefinitely. The whoop, though so prominent and usually thought so diagnostic, is not an indispensable peculiarity or feature of the disease, as I am well satisfied my own two children both had the disease minus the whoop. A very noteworthy peculiarity of the cough is, that a paroxysm may be brought on at almost any time by whatever angers or irritates the child. If then we have an obstinate, protracted, paroxysmal cough, where the paroxysms are readily induced by whatever angers or irritates the patient, you safely diagnose the case as one of the disease under consideration, though there be no whoop about the cough. The whoop is supposed to be the result of stricture or closure of the glottis during inspiration; the closure being in nature neurotic and spasmodic rather than inflammatory. The closure is so complete and protracted in some cases as to threaten suffocation. The cough is paroxysmal but not periodical. It may occur at intervals of half an hour for several hours, or only once in two or three hours, or only four or six times in the twenty-four hours. Very young children soon learn when an attack is about to come on. If very young infants they redden in the face, have short and irregular respiration, as if trying to keep the cough back. Older children, in addition to these manifestations, make prepara-

tion for the onset by laying hold of furniture or any suitable place of support; or that which they greatly prefer, is to flee into the arms of some one for support. The paroxysm of coughing is accompanied and concluded by a free expulsion of a tough, watery mucus from the mouth and nose, and if food have been recently taken, the cough will in many instances be concluded by vomiting. A child will sometimes be attacked with cough during an unfinished meal, throw up that which has been swallowed, and then return to and finish the dish as if nothing had happened. It is indeed truly remarkable that such violent symptoms should be borne for so long a time, with so little apparent constitutional distress. Children eat, sleep, play, and grow, without the slightest apparent trouble, except at the time of the cough. While the child continues to cough, eat, and vomit, it may be affirmed with the greatest certainty, that the case is progressing safely. But in the progress of the case, should the appetite fail, vomiting cease, cough continue, and fever appear, we may regard the case as unpromising and even dangerous. One of the probable and troublesome complications in this disease is bronchopneumonia, already somewhat elaborately noticed. Children prone to tubercular and scrofulous affections are likely to have such peculiar tendencies started into activity. Convulsive complication in slender delicate children is probable, and always to be regarded as exceedingly dangerous. Strabismus is of frequent occurrence, and in bad cases may become permanent, and require surgical assistance to rectify the fault. In young teething children during hot weather a troublesome diarrhœa starts up as a complication. In still others, a state of extreme atrophy and attenuation results from the violence and duration of the cough, with general letting down of the vital energies, but without any complication or involvement of a local nature, bringing the patient into great peril. Hydropic effusion into the cerebro-spinal cavities is an alarming condition of matters, and usually results fatally. A tedious, troublesome, and very unfavorable complication in this disease is teething, hot weather, and diarrhœa. Finally, a very

unwelcome complication is an obstinate remittent loss of appetite, loss of flesh, and continued violence of cough, with little or no bronchial secretion or moisture. Nosebleed is a frequent troublesome complication, but not dangerous.

Diagnosis.—Catarrh and the incipient symptoms of measles are the only forms of disease likely to mislead us into a wrong diagnosis in this disease. In any probability that the case may be measles we may be pretty surely confirmed in such probability by hoarse croaking cough, much coryza, red suffused eyes, with intolerance of light. In any question as to the probabilities, as to whether the case may be catarrh or whooping-cough, we may be in a most perplexing doubt for a whole week, until the whoop appears and gives character to the case; or no whoop appearing the symptoms suddenly subside, and the case has been one of catarrh.

Prognosis.—This may be regarded as favorable in mild cases, and even in decided cases, under favorable surroundings, when no complications take place. But in the event of any of the complications mentioned above, the future and result should be looked to with much anxiety.

Treatment.—Belladonna, Drosera, Corallia rubra, Ipecac, are our chief remedies in the management of this disease. A long while ago I fell into the somewhat unhomœopathic practice of giving Belladonna and Drosera simultaneously or in combination. I do not now remember how the habit came about, as it is not my custom thus to give remedies in combination; for, when I have made experiments of the kind the result has rarely been satisfactory. The form of combination was to medicate pellets No. 25 with 1st decimal dilutions of the two named remedies, and prescribe two to four, six or eight pellets, according to the age of the child, at intervals of about two hours at first, and when better, every three or four hours. This prescription I have found remarkably successful in the treatment of whooping-cough. Sometimes it has seemed to cut it short; it rarely fails to induce a most comfortable palliation. At Memphis, Tenn., where I practiced

medicine for a long while, it got such widespread reputation, as to be called for, far and near, and by parties who never consulted me on any other account. Probably a more scientific and professional mode of procedure would be to give Belladonna at first, and during the febrile and catarrhal stage, and Drosera afterwards. I am sure these two medicines make our best resource in this disease. Should Drosera and Belladonna give only partial or incomplete relief, we shall find Corallia rubra our next best resource. Ipecac enjoys much reputation with many practitioners of high standing, probably when there is much gastric disorder, but I have not been much given to its use in such cases, or in whooping-cough at all. The Mephites has considerable reputation, but its loathsomeness gives me such a prejudice against it, that I have never used it. Sulphuric acid is in high repute among the allopathists. Inoculation with the vaccine virus was supposed and indeed proclaimed to be just the thing in the curative line at one time, but I think it is now falling into disfavor from failure, as many professional "new lights" have done before. Free exercise and exposure in the dry open air is of the very first importance in the disease. The diet should be full, hearty, and nutritious, but digestible and suited in kind and quantity to the age of the patient, as well as any show of complication that may arise in the case. As before stated, a simple uncomplicated case of whooping-cough in a robust subject need not be regarded with anxiety or alarm; but in those cases of sequelæ and complication before described, there is much ground for a most unfavorable prognosis, and the greatest skill and vigilance will be required to save the little sufferer. The special treatment requisite for each of these complications need not be gone over here, as it would involve a repetition of much that must be said elsewhere, when treating of these complications as separate diseases on their own account. For instance, the treatment of bronchopneumonia as a complication of whooping-cough will not differ materially from cases where it is the primary affection. Convulsions in this disease should be treated much as where such

convulsions may be the primary malady. And so of atrophy, hydrocephalus, tubercle, scrofula, and strabismus.

CYANOSIS.

Synonyms—Definition.—The terms morbus cœruleus, or the blue disease, are synonymous with cyanosis, which may be defined as a permanent lividity or blueness of the skin, usually dependent upon organic lesion or defect in the parts concerned in the circulation and aeration of the blood. This appearance presents itself in a slighter form under several diseased conditions of the animal economy, involving more or less hindrance to the circulation and oxygenation of the blood temporarily, as in pulmonary tuberculosis, congestion, and angina pectoris. Formerly, that pronounced form of lividity to which the term cyanosis is properly applied, was supposed to result from a failure of nature to close up the foramen ovale at the conclusion of fœtal life, and thus set up separate independent existence and circulatory function on the part of the new-born babe. Further and more recent investigation have established the fact that a peculiar lesion or defect on the part of the lungs, known as atelectasis, may account for the livid skin. So also has it been ascertained that defect on the part of the heart's nutrient artery, by giving impaired nutrition and defective energy to the heart, may serve as a cause. Undoubtedly any fault or defect on the part of the heart, lungs, and great bloodvessels may give rise to the disease, the trouble consisting either in defective aeration of the blood in the lungs, or the admixture of venous blood with the arterial blood as it takes up the line of circulation from the left cardiac ventricle. Probably the two most frequent sources of the trouble are a failure to close up the foramen ovale at the time when respiration should set up, and pulmonary atelectasis. When the trouble depends upon either or both of these lesions combined the manifestations

of the cyanotic condition will be likely to present themselves within the first sixty hours after birth, and in so grave a form as to cause the death of the infant within the first week of life. When the symptoms show themselves as the result of minor malformations and defect of the cardia and respiratory organs, they may not be apparent for weeks, months, or even years after birth, and in such mitigated form as to allow of the prolongation of life somewhat indefinitely. In decided cases, occurring at or very soon after birth, the difficulty is probably always dependent upon congenital malformation.

As to the age at which the disease may show itself we quote the following table from Dr. J. Lewis Smith's *Diseases of Infancy and Childhood*, recording observations in 138 cases:

"In 97 within the first week and often within a few hours after birth.

In 3 at 2 weeks.	In 6 from 2 to 5 years.
" 1 " 3 "	" 1 " 5 to 10 "
" 2 " 1 "	" 6 " 10 to 20 "
" 7 from 1 to 2 months.	" 1 " 20 to 40 "
" 5 " 2 to 6 "	" 1 over 40 years.
" 5 " 6 to 12 "	—
" 3 " 1 to 2 years.	41"

As to pathological lesions and appearances of the lungs upon the cadaver, we quote again from Smith's account of 100 cases out of 191.

"In twenty-six cases there was tuberculosis, either confined to the lungs or chiefly exhibited in these organs; in thirty-five cases the lungs were of small size, either from compression by effusion in the pleural sac or pericardium, or sometimes, apparently, from the persistence of the fœtal state over a greater or less portion of the organ. In thirty-five cases the lungs presented a dark color, owing either to atelectasis or to engorgement and congestion. In nine cases there was emphysema in a part of the lungs; in two the color was pale; one, a bright crimson; in one the lung was larger than natural; in one the right lung was absent; and in seventeen these organs were recorded as healthy."

In a large proportion of cases there has been found on post-mortem examination congestion of the liver, kidneys, and brain; but the great preponderance of lesion has been found to reside in the heart and great vessels, which are nearly always the primary and real seat of the difficulty.

We quote again an account of 162 cases from Dr. Smith as to the seat of the trouble.

"1. Pulmonary artery absent, rudimentary, or absent, or partially obstructed,	97
2. Right auriculo-ventricular orifice impervious or contracted,	5
3. Orifice of the pulmonary artery and the right auriculo-ventricular aperture impervious or contracted,	6
4. Right ventricle divided into two cavities by a supernumerary septum,	11
5. One auricle and one ventricle,	12
6. Two auricles and one ventricle,	4
7. A single auriculo-ventricular opening; interauricular and interventricular septa incomplete,	1
8. Mitral orifice closed or contracted,	3
9. Aorta absent, rudimentary, impervious, or partially obstructed,	3
10. Aortic and the left auriculo-ventricular orifices impervious or contracted,	1
11. Aorta and pulmonary artery transposed,	14
12. Cavæ entering the left auricle,	1
13. Pulmonary veins opening into the auricle, or into the cavæ or azygos veins,	2
14. Aorta impervious or contracted above its point of union with the ductus arteriosus; pulmonary artery wholly or in part supplying blood to the descending aorta through the ductus arteriosus,	2
	162"

A glance at this table will show that in a large majority of the cases the lesion must have had its start during fetal life, and is consequently congenital. It is also noticeable that in quite a large proportion of cases the defect or malformation is on the right side of the heart and its appendages, which corresponds to the probabilities of disease attacking this side of the heart in adult life. In violent well-marked cases occurring within the first week or ten days after birth, the lease for life will be short; in less de-

cided cases, coming on at a later period and more gradually, the duration of life may be considerably longer. We are indebted to Dr. Smith for the following table as to age at which death may take place:

"In 186 cases death occurred: In 17 under age of one week; in 10 from one week to one month; in 12 from one month to three months; in 11 from three months to six months; in 17 from six months to twelve months; in 12 from one year to three years; in 21 from two years to five years; in 21 from five years to ten years; in 41 from ten years to twenty years; in 20 from twenty years to forty years; in 4 over forty years."

The mode of death is the immediate and direct result of the symptoms when it happens within the first few weeks of infantile life, but under any considerable prolongation of life it is more likely to be the result of some intercurrent acute disease, such as the febrile exanthemata, teething difficulties, or whooping-cough, which would, of course, be badly borne under the embarrassments peculiar to the cyanotic condition.

Symptoms.—Of these the livid or bluish state of the skin is diagnostic and most conspicuous. This appearance will likely be greatest in parts with large capillary distribution, as in the face, on the mucous membranes, and in the remote and dependent portions of the body. In slight cases the lividity will be mitigated by quietude, and greatly intensified by excitement or exertion. The bodily temperature is low, and cold badly borne. The pulse is small, irregular, frequent, or intermittent, which condition is much aggravated by exercise. The nutrient function is largely at fault, resulting in slow growth and immature development.

The chest sometimes presents the appearance known as "pigeon-breast;" the fingers and toes are likely to be bulbous. Palpitation, and hasty, embarrassed respiration, are readily induced by any considerable attempt at exercise. The carbonized venous quality of the blood gives much predisposition to hæmorrhage, and in some instances to purpura hæmorrhagica. The blood, when exposed to view, presents a dark, watery appearance, from being

loaded with carbonic compounds, and has little or no power of coagulation.

Prognosis.—This may usually be set down as decidedly unfavorable. For, should the patient for a time survive the first appearance, or even a considerable duration of the symptoms, the prospect of complete recovery is unpromising, to say nothing of the probability that death may at any time overtake the patient under a supervention of some or any one of the numerous violent acute diseases incident to childhood, such as whooping-cough, bronchopneumonia, the contagious febrile exanthemata, or cerebral and meningeal inflammation.

Diagnosis.—For this purpose the peculiar lividity of the skin, with the perturbed state of the respiration and circulation, will always be sufficient.

Treatment.—This must be largely hygienic, rather than medical. The careful avoidance of all extremes in diet, exercise or motion, temperature; with abundant sleep, rest, and quietude in the horizontal position, will each and all be of the first importance. New-born infants in this disease should be kept strictly in the horizontal position, with as little motion and as much quietude every way as possible. They should be gently swathed in a warm, soft blanket, and not disturbed with any attempt at a bath or make-up of apparel until the improved strength and vitality may make the undertaking safe and prudent.

Children of larger growth suffering from the cyanotic condition should have a uniform supply of bland, nutritious diet, should be much in the open air, should have sports and activities of a gentle and equable kind, should sleep much, and be kept away from recitations and the school-room. Permanent or protracted medication should not be practiced; but under temporary emergencies and distress much temporary palliative gain may be accomplished by a discriminating administration of such remedies as Aconite, Digitalis, Spigelia, Cactus, Conium, Hyoscyamus, Prussic acid, Arsenicum.

THRUSH.

THERE are three forms of inflammation that may attack the mucous membrane lining the buccal cavity of children,—thrush, stomatitis, cancrum oris.

Thrush is the milder and more common form of these diseases. It may show itself during the first month of infancy; rarely later than the end of the first year of infantile life. In its incipiency it appears in the shape of whitish specks or patches on the lateral parts of the mouth, or in the roof and on the tongue. These appearances may not at first attract much attention, and give the child but little inconvenience. They look much as if particles of coagulated milk were adherent to the parts. This coating under any attempts at removal will be found to adhere tenaciously, and when removed leave the part reddish, slightly inflamed, with a softened, partially denuded look. If the case be neglected or mismanaged, all these appearances become heightened and intensified; fever may set up; the child nurses badly, becomes sleepless, loses flesh, frets much, diarrhœa sets in, excoriation of the anus and buttock takes place, with thrushy appearances within the margin of the anus, giving rise to the popular, and not improbable idea, that the disease has gone through the stomach and bowels. The histological or microscopic character and appearance of the thrush deposit, as seen in the mouth, has been the subject of elaborate, minute investigation on the part of pathological scientists. It has been shown to be a *confervæ* of the *cryptogamous* kind, propagated by *sporules*, which, when transferred to the mucous membranes of healthy children, vegetate, and grow and propagate their kind, to the establishment of the identical disease, in the new locality. In other words, the disease may be transferred from the sick to a healthy child. Thrushy children quite frequently communicate this disorder to the nursing mother's nipples. Whatever may be the immediate exciting cause of thrush, it will always be found associated with digestive, and especially gastric disorder. Ordinarily these disorders of diges-

tion will be traceable to dietetic defects and irregularities. The food may be poor or insufficient, ventilation and atmospheric surroundings may be bad; usually the trouble depends upon overfeeding, or too short or irregular intervals. Mothers are prone to nurse their infants too often, or without any regularity as to interval. In the case of children "raised by hand," the irregularities and abuse as to both time and quantity will be found a fruitful source of the disease. In obstinate forms of the trouble *diarrhœa* will be found a prominent element in the symptomatic aggregate. The stools are large, thin, frequent, fetid, acid, lienteric. The anus and adjoining buttocks become excoriated; the renal secretion suffers impairment in the shape of milky-looking urine; scant, highly-colored urine, or large quantities of colorless urine. In the presence of such a state of matters the child rapidly shrivels away into a condition of extreme, incurable atrophy.

Treatment.—If the foregoing view as to the origin and cause be true, of course the very first thing to be done will be the correction of such abuse. The child should have a daily tepid salt-water bath, followed by abundant frictions; should be removed to cleanly, well-aired apartments, and should have proper food at uniform intervals. If possible, no article of diet should be permitted which is found to appear in the stools in an undigested condition. Simultaneously with these hygienic precautions the vegetable parasite should be washed or wiped from its site daily three or four times; for, whether it be an exudation from the tissue or a deposit on the parts from without, it rapidly accumulates, and by its presence greatly embarrasses both function and comfort of the parts. The process of removal is simple enough. Wrap a few turns of soft rag around the finger, saturated with a solution of borax, or table-salt and water, pass it gently but rapidly to the various sites of the deposit, and so bring it away. In simple cases the hygienic reforms, with the frequent removal of the accumulations, will be all that is required for relief. In more decided cases internal treatment will be called for. Frequent eructation, with costive bowels, will call for Nux vomica. Diar-

rhœa, with acrid, yellow stools and excoriations, will require Mercurius. Exhausting, lienteric diarrhœa will require a discriminating selection from such excellent remedies as Arsenicum, Ferrum, China, Pulsatilla; Arsenicum coming in for an especial share of favor in cases tending to atrophy.

STOMATITIS.

As compared to *thrush*, this is a more decided, deeply seated inflammation within the oral cavity, attacking the gums, inner side of the cheeks, parts near the angle of the lips, tip and margins of the tongue, uvula, soft palate. It seems to have its seat primarily in the follicular apparatus, and consists of small pellucid vesicles, in considerable numbers, which soon break, leaving raw surfaces, which rapidly coalesce and spread out into distinct ulcers. These ulcers deepen, and are surrounded by a scarlet margin, and are exceedingly sensitive to the touch. Salty, acid, or acrid articles of food, give intense pain. In eating, the acts of prehension, mastication, deglutition, are performed with much pain and difficulty. The child is wilful and ill at ease, whether sleeping or waking, loses flesh, and altogether is in a very unhappy condition. This affection is popularly known as a "canker of the mouth." It is most prevalent among children from 3 to 5 years of age. It is painful and obstinate, rather than dangerous. The trouble starts simultaneously in the site of the numerous follicles, and spreads rapidly, so as to coalesce, and finally present quite large raw or ulcerated surfaces. The bottom of the largest of these ulcers is covered with a whitish appearance, as if from exuded membrane or dead cellular substance. In decided cases these ulcers redden at the margin, and deepen the excavations, and spread in area, until quite a large proportion of the oral cavity becomes involved. The salivary flow is watery, profuse, rather acrid, and in flowing over the cutaneous surface inclines to exco-

riate. Poor sleep, partial appetite, fetid breath, slight fever, go to make up the symptoms, with those before mentioned.

Cause.—Bad diet, dirty surroundings, close, confined apartments, are set down as the chief factors. But we so frequently find all these adverse hygienic conditions with no case of the disease, and then so often find the disease prevalent in families enjoying good hygiene, as to raise the question, whether the disease, after all, may not depend upon some undiscovered agency. In some cases it would seem to be a kind of sequela to the eruptive fevers.

Diagnosis.—This need not be difficult, as the local manifestations are easily seen, and should be readily recognized as peculiar only to this condition.

Prognosis.—This may be ordinarily regarded as favorable. In cases where the trouble is secondary to a violent form of recent disease, as one of the eruptive fevers, for instance, from which the child may have suffered much depletion and exhaustion, the symptoms sometimes pass into an unfavorable complication of cough, hectic, diarrhœa, and bring the little sufferer into great peril. A strumous or tuberculous tendency will render such complication all the more dangerous.

Treatment.—Good diet, cleanliness of person, with an abundance of pure fresh air, are important requisites. If acceptable to the patient, no diet is so suitable as milk, or milk and well-cooked oatmeal. Solid, hearty food is unsuitable to the enfeebled state of digestion, besides being wholly unfit for the masticatory ability of the patient. In the therapeutic line, a few remedies are indicated. Of these, one of the most important is the *Kali chloricum*. Hughes says he usually finds no other medicine necessary. It seems serviceable in the very first stage or onset of the disease. Should improvement be slow, or not apparent, especially where there is much faucial inflammation, the *Kali bichromicum* will be found serviceable.

Sulphuric acid will do well in those cases where there is great sensibility of the parts, with much salivary discharge. In obsti-

nate cases, especially if there be intestinal disorder, Mercurius will be found the remedy.

In cases characterized by a whitish exudative surface of the ulcers, with much obstinacy, the *Liquor chloridi calcis* will be found an excellent remedy, especially if the disease involve the faucial and pharyngeal localities.

Nitric acid has much the same indications as Mercury.

In a recent case of remarkable obstinacy, after I had used nearly all the above excellent remedies without the slightest evidence of improvement, the *Biniod. mercury* effected a prompt and beautiful cure in about forty-eight hours.

Local applications are but little worth, though they may serve to amuse the patient, and sometimes meet a popular demand. Solutions of the Chlorate of potash, table-salt, or Capsicum, may answer the purpose very well.

In cases of a subacute character, characterized by cough, hectic, lienteric diarrhœa, atrophy, Arsenicum, China, Ferrum, should be kept in mind, together with a daily warm bath in salt water, to be followed by cutaneous frictions with deodorized *Cod-liver oil.*

STOMATITIS GANGRENOSUM.

In a further consideration of diseases peculiar to the mouth we come now to a study of this violent, distressful, but fortunately very rare disease, sometimes called *cancrum oris.*

Dr. West, a British authority of high repute, and extensive opportunities both in hospital and private practice, up to the date of the last edition of his work on *Diseases of Children*, had seen but ten cases; two of which recovered and eight died. In a large and varied experience I have seen but three cases, all of which terminated fatally. MM. Rilliet and Barthez report 21 cases, 20 of which terminated fatally. A recent French author, who had collected from different sources an account of 239 cases, some

of which were adults, gives a mortality of 176, or about three-fourths. MM. Rilliet and Barthez found in 29 cases that only one case seemed to be idiopathic, while 12 cases followed attacks of measles. Of Dr. West's ten cases, two succeeded to typhoid fever, four to measles, one in a case of protracted ague, one after active employment of Mercury in treatment of encephalitis.* This disease, though not confined to childhood, is very much more frequent in childhood than in adult life. The three cases that I have seen were between the ages of two and five years. Of Dr. West's ten cases, 2 were at two years of age, 2 at three years, 4 at four years, 1 at six, and 1 at eight years. Of the three cases under my observation, I could get but little history or information, as they had all been under previous medical advice. I could not learn that they had taken Mercury, though in two of the cases the families were decidedly of the opinion that the cases were attributable to the use of mercurials. To families and non-medical persons the strong similarity between a bad case of salivation from the abuse of Mercury and cancrum oris, may unjustly lead to the conclusion that mercurial abuse may have been the fault where no such abuse has been practiced. Then, too, a succeeding practitioner to the one first in charge, will sometimes yield to the temptation of making a point against a rival, by pandering to this popular prejudice; for as a general rule the physician in charge, when gangrenous symptoms make their appearance, will be discharged under the suspicion that mercurial abuse has been the source of the difficulty. I do not think this suspicion at all well founded, for the following reasons: young children are as a rule quite insusceptible to the hurtful action of Mercury in the form of salivation. The use of it is general, almost universal among children treated by allopathic practitioners. The occurrence of stomatitis gangrenosa is exceedingly infrequent. But, the disease being attributable to mercurial salivation and mercurial abuse, ought to be much more frequent than we find it in practice.

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* See West on Diseases of Children, p. 473.

In the outset, we made incidental allusion to the *hideousness* of this disease. When you shall have been so unfortunate as to encounter your first case, you will be fully prepared to affirm the propriety of the word hideous as applicable to this fell disease. You will of a truth find it hideous in the appearance of the sloughing parts, hideous in odor, hideous in the anguish of the patient, hideous as to any prognosis you may feel authorized to make.

There begins to be a plausible speculation among scientists and medical men, that the peculiar local appearances of the mouth in this disease are merely outcroppings of a previous blood-poison, or degeneration of a zymotic character. There is also a kindred speculation that, while identity is not affirmed or claimed, yet similarity to the *diphtheritic zymosis* is strongly suspected. Whatever may be the truth or falsity of *zymosis*, whether in diphtheria or in cancrum oris, it is undoubtedly true that in certain poverty-stricken states of the blood there is a strong tendency to peculiar exudative deposits upon the mucous surfaces, liable to be followed by a malignant inflammatory action, which, starting in the mucous membrane, extends by continuity of parts to adjoining structures, until the involvement or complication becomes serious and alarming. It is said by those who have enjoyed opportunities for early observation in the disease under consideration, that the earliest local appearances are those of a coagulated exudative deposit. So far no observation would go to show that the exudation is either contagious or inoculable, whilst that of diphtheria is both contagious and inoculable. I strongly incline to the theory or opinion that adverse influence to good blood and good constitutional vigor, in the way of bad food, bad ventilation, and bad hygienic regulations generally, together with previous violent exhausting disease, may result in childhood in the disease under consideration, and that to go out of the way after *zymotic* explanations may be ingenious, but is gratuitous and speculative rather than founded in fact. Much time need not be consumed in a description of this disease. You will readily recognize your first case,—the rotting, blackened, stinking state of the flesh, as it rapidly falls away from the

teeth and bones. The anguish and misery of the little sufferer will be unlike anything you have ever seen or mentally conceived.

Cause.—In considering the nature, symptoms, and history of this disease, pretty much all has been said that would be profitable in regard to cause. Violent acute disease, bad hygiene, especially poor food and defective ventilation, resulting in wasted energies, and thin, poor blood, seem in the main to have been the immediate precedents of the local appearances. Statistics would seem to show a decided tendency of this disease to follow attacks of measles.

Treatment.—Theoretically, as well as symptomatically, we would naturally think of Arsenicum, Mercurius corrosivus, Secale, stimulants, and nutritious diet; but therapeutic results give little encouragement to use anything. Dr. West thought he saved one of his ten cases by cauterizing freely with strong acid.

PAROTITIS—MUMPS.

This is a contagious, self-limiting inflammation of the parotid glands, not confined to childhood, but of far more frequent occurrence than among adults, from the fact that one attack gives exemption to the party ever afterwards, and nearly every child has its experience with the disease before reaching the period of adolescence. It consists essentially in an inflammation of the parotid glands. Sometimes the attack involves but one gland, sometimes they are attacked in succession, at others simultaneously. The attack is ushered in by chilliness and fever, followed immediately by swelling, tenderness, heat, and pain of the gland. When the swelling is extensive, and attacks the two glands at once, the patient has a most ludicrous appearance, as the swelling extends upwards to the face and downward upon the neck, giving the parts double or treble their natural proportions. The cervical and other muscles concerned in deglutition become implicated by

sympathy, as well as by contiguity and continuity of structure, so as to make the function painful and difficult. There is a very general popular belief that patients with mumps suffer especial pain and difficulty in attempts to swallow acids, but I am not at all sure that such fancy has any foundation in fact. In its primary and uncomplicated form this disease runs its course benignly in three to five days, giving little concern to any one, other than personal inconvenience to the patient, and requiring no other treatment than quietude within doors, some restriction in diet, with occasional inunction of a mild camphorated ointment, as a palliative for the soreness and tenderness of the parts. The sequelæ and sympathetic accidents, in the way of swelled testes in males and swollen breasts in females, which sometimes so sorely and seriously afflict adults, are rarely seen in children. Several years ago I was called to see a young child, whose family represented it to have had symptoms of mumps during the preceding few days. When I saw it there was slight swelling in the cervical parotid region, with rapid pulse, high fever, with strong symptoms of brain disturbance. The whole aspect of the case had much the appearance of metastasis to the brain. There was a sudden and rapidly developed swelling over the upper end of the sternum, which, when punctured, discharged blood and serum. The child sank rapidly, and died in thirty or forty hours after I first saw it. The case was altogether obscure and unsatisfactory as to diagnosis as well as termination.

The mode of prevalence is usually epidemic, though it may be sporadic or endemic. The period of *incubation* is variable, from nine to twenty-one days. The duration of the symptoms is also somewhat uncertain, covering a range of five to ten days. Suppuration of the parotid in this disease is exceedingly rare. By far the most important phase of this trouble is the liability to *metastasis* to the brain, mammary glands, or testicles. Metastasis to the brain would seem to be very rare, judging from the experience of those with opportunities for extensive observation. The probability of metastasis to the mammary glands of the female is some-

what greater than to the brain, but is usually not violent or troublesome. The greater probability on this subject of metastasis is that the testicles will suffer. West says he has no experience in regard to metastasis in any form, which is somewhat remarkable, considering his very extensive opportunities for observation, both in hospital and private practice. When a transfer of the disease from the parotid to the testicle takes place, it usually occurs about the time of subsidence of swelling at the primary seat of attack. The probability of this transfer will be greater in the case of large boys and young men than in very young subjects. The popular notion of impotence as a result in this phase of the disease is not authorized by the facts of the case, though in occasional cases atrophy, hydrocele, or chronic induration and enlargement may impair the virile and procreative powers, especially if both testicles be implicated in the accident. The involvement of the testicles will be indicated by the sudden appearance of swelling, pain, tenderness in the scrotal region. The swelling is in some cases very extensive, and the constitutional distress, in the shape of fever, furred tongue, headache, backache, and impaired appetite, very decided. These symptoms, though somewhat violent, usually terminate benignly, in resolution, entire recovery; in exceptional cases adversely, in the manner as before stated. The nature or explanation of the metastasis is entirely inexplicable upon any known facts in the animal economy. If but one parotid be attacked, the transfer will correspond to the testicle of that side. Much exercise, and the erect posture of the body, are supposed to favor the transfer, though there does not seem to be any well-made and recorded observations to sustain such theory.

Treatment.—As before intimated, the primary trouble is very simple, is self-limiting, and requires little attention other than quietude within doors, light diet, and any gentle, soothing embrocation, to alleviate the pain and tenderness of the parts. In the event of scrotal involvement the case will be very much more important as to management. The patient should be strictly confined to the recumbent posture and light diet. The scrotum and

testicles should be well bound and supported within a carefully selected and well-adjusted suspensory bandage, which it may be well to wear for some weeks after apparent recovery, to prevent a relapse.

As internal remedies, Belladonna at first, and Mercurius afterwards, will usually answer the therapeutic needs of the case. In the event of permanent induration or enlargement of the parts, the Aurum muriaticum will claim attention.

TONSILLITIS.

This is not exclusively a disease of childhood, but has a relative frequency and violence among children which entitles it to special consideration in studying and treating their diseases. As the term indicates it is an inflammation of the tonsil glands, which may be either acute or chronic; the acute form being marked at times by great violence and distress, when it receives the popular name of *quinsy;* the chronic form is without violence, but is marked by great obstinacy, with much hypertrophy of the parts. It is very likely to prevail in the harsh, changeable weather of the wintertime, especially in high northern latitudes. Nervous, delicate, and particularly strumous children, show a great proneness to the trouble. Children who are very fat and gross; precisely opposite peculiarities also suffer in this way. Gross, hearty eaters, whether fat or lean, are apt to be troubled in this way.

Symptoms.—The acute form may present itself mildly, in the shape of increased heat, redness, and sensibility, with excess or deficiency of normal secretion, but with slight or little swelling, difficult deglutition, more or less fever. In more decided and violent forms, all the foregoing symptoms are greatly intensified, with the addition of great swelling, so as greatly to hinder or almost obstruct deglutition and seriously impair respiration. The swelling and other symptoms spread by continuity, so as to implicate adjoining parts,

as the uvula, soft palate, and pharynx. When the swelling shall have extended so as to fill up the faucial passage or cavity, there will sometimes be an extension into the posterior nares, so embarrassing respiration in this direction, in addition to the obstruction to any respiratory effort through the throat, as to make suffocation a probability and a source of peril. The breathing in addition to being difficult, becomes noisy, and the whole manner and expression is one of great distress and anxiety. The parts under inflammation are the seat of intense pain; there is likewise a sense as of impending suffocation. There is much fever, with general constitutional disturbance. The mouth is opened or the tongue protruded with great pain and difficulty. Extensive suppuration followed by ulceration, with occasional disposition to slough, come in to make up the complement of sore distress to the patient. The very great swelling, with consequent vascular constriction, obstructing circulation, produces darkness or lividity of parts, including the tongue, which, in a bad epidemic in Tennessee and Kentucky, gave rise to what was known as "black tongue," some twenty or thirty years ago. The trouble is usually endemic; occasionally epidemic; the latter form being characterized by great violence of symptoms.

Cause.—This disease is the result of sudden changes of temperature, in moist or damp weather, especially from warm to cold and frost, in connection with digestive disorders. Lymphatic temperaments with a scrofulous dyscrasia operate as predisposing causes.

Diagnosis.—Not difficult, as there is no other disease for which it is likely to be mistaken.

Prognosis.—In mild cases is favorable, but in unfavorable subjects, when in a violent form, we should be more on our guard as to results.

Treatment.—Belladonna, Tartar emetic, and Mercurius are the best remedies in this disease. In the milder form, with redness, local heat, pain, and tenderness, Belladonna will be sufficient for the case. In the more violent cases, Tartar emetic and

Mer. viv., in alternation, at intervals of one hour, will be the proper course. In strumous subjects the Biniodide mercurius should take the place of Mer. viv. Any resulting abrasion and ulceration with tardy disposition to repair may safely be trusted to Kali bichromicum or Liq. chloridi calcis. Local applications are palliative only, not curative. They should be soothing, and not harsh or irritating. Hence we condemn Argent. nitras, strong tinctures and infusions of Capsicum, and other kindred topicals, which "add fuel to the flame." Protracted inhalations of warm-water vapor, slightly acidulated with apple vinegar, with frequently repeated flannels out of hot water to the throat externally, will be found both comfortable and profitable. Should the evidence of suppuration be decided a puncture with the point of a lancet, to release the pent-up matters, gives quick and very great relief. It will be noticed that I have not included Lachesis among the remedies in this disease. I do so for two reasons. In the first place I believe it to be inert, when applied to the mucous surface in a state of integrity, as is shown in the fact, that persons bitten by this class of venomous reptiles, find the surest relief or protection in immediately sucking the bitten part with the lips, either of oneself or the lips of an unbitten person, and where there is no abrasion of the mucous membrane of the mouth, throat, or stomach, with entire impunity. In the second place, I have decided for myself to ignore the use of medical substances from all hideous and loathsome sources, while we have those of good and reliable qualities not open to such grave objection. Further, many years ago I tried the remedy without the slightest apparent therapeutic result. Then, too, the very great difficulty and infrequency of opportunity for obtaining the poison, furnishes a temptation to label and vend that which may never have been within a hundred miles of any legitimate source of supply. The *itch* for new, rare, and multifarious remedies has ever been the bane of medical practice; and as we have grown older in civilization and science, the malady has grown worse, until our materia medica now present the unseemly spectacle of five hundred or six hundred articles, huddled together

from every conceivable source of supply, each vaunted by its discoverer and champion as the very *ultima thule* of therapeutic power and excellence, and many of them drawn from sources of the most ludicrous, loathsome, and hideous nature; until some of these same rare and wonderful remedies have made our profession the butt and laughing-stock of the laity. Had we fewer remedies, from reasonable and decent sources, with powers well understood and defined, we should find ourselves, in the end, much better armed in our conflicts with disease, and in position to enjoy and command the respect, confidence, and esteem of our clients.

CHRONIC TONSILLITIS.

This form of trouble may be the result of one or repeated attacks of an acute character, but I think in numerous and probably in most instances it gradually and insidiously sets up without any preceding acute malady of the parts. The most prominent or noticeable appearance is great enlargement or hypertrophy of the glands. In many instances they become so large as to reach quite across the faucial passage, and touch each other. Deglutition is not much hindered or impaired, but there is decided impairment of speech, with wheezy, noisy respiration, especially while asleep. With such patients there is great susceptibility to "take cold" from exposure to atmospheric changes. This affection is very common among frail, slender children, and especially those of scrofulous tendency, with small limbs, full belly, fair skin, freckled face, blue eyes, and blonde hair. Such children have poor teeth, bad breath, furred tongue, freakish appetite, disturbed sleep from bad dreams, and are usually pronounced by their mothers "wormy." The medical man finds himself enlightened by a constant repetition of this revelation by all the knowing matrons of the child's vicinity, and is constantly importuned for advice as to the best "worm remedy." Worms may

be an occasional element in the complement of troubles, but are incidental and occasional rather than causative or general. This affection is obstinate and troublesome rather than violent or dangerous.

The **Treatment** should be general and hygienic rather than local or medical. You will find yourselves importuned for advice as to the propriety of excision, and will occasionally find yourself dismissed from your case for refusing such advice and operation in favor of some one who coincides with the wish for more peremptory procedure. After excision the morbid growth is quickly reproduced, and leaves the parts in an ugly, ragged, unseemly condition. Do not yield, then, to the demand or temptation to amputate the part, but persist in means for perfecting the general health, with the promise that after awhile the deformity will improve and disappear as the patient grows older and stronger. The internal use of the Biniodide of mercury is our best remedy, 2^{x} or 3^{x} trituration, 1-grain doses, once per day, for many alternate weeks. Hepar sulphur and Kali bichromicum are good medicines, and may occasionally alternate, or for a time respite the Biniodide. Local or topical applications, though in much request by parents and friends, do not seem to be of much benefit.

GASTRIC FEVER.

THE local pathological condition upon which this fever depends is one of irritation, not a state of inflammation. Irritation is that state of increased vascularity, hyperæsthesia, increased temperature, impaired function, standing as it were midway between the normal condition and that of inflammation. Probably every state of inflammation is preceded by one of irritation, though every state of irritation is not necessarily followed by one of inflammation. Well-marked acute inflammation of the stomach is not of frequent occurrence, either in childhood or the adult state,

and when present is usually associated with and preceded by a corresponding condition of the intestinal canal. Uncomplicated gastritis is generally of the subacute or chronic form, and chiefly found among adults in advanced life who have been much given to drunkenness or gluttony, or both. The state of irritation giving rise to gastric fever is of frequent occurrence in early life, and much prone to happen between the end of the second and the fourth or fifth year of age. The tendency to such prevalence at this particular age is probably due to the transition from the use of bland, nutritious, digestible milk diet, to the hearty, complicated table habits of civilized life, for which the tender, undeveloped organs are unprepared. The symptoms have a mean duration of from five to seven days, usually terminate in recovery, have few or no complications, and are followed by no sequelæ.

Symptoms.—Among the first manifestations of disorder will be nausea and vomiting, followed immediately by slight rigors and febrile reaction. If the fever be high there may be delirium; starting, agitated manner, convulsive threatening, coated tongue, fetid breath, anorexia, epigastric tenderness and pain, constipated bowels, come in to fill out the picture. The matters vomited consist at first of frothy liquid with undigested food, but very soon become largely mucous, and occasionally show streaks or dots of blood. The skin is hot and dry, the face flushed, pupils dilated; the pulse has quickness of stroke as well as great frequency of beat. The severe thirst calls for large draughts of liquid, which are usually thrown up immediately. The urine is scant, high-colored, of bad odor, and passed very frequently. The addition of diarrhœa to the foregoing symptoms is an untoward occurrence, indicating a tendency to pass from a state of irritation to one of inflammation; in which event we shall have *gastro-enteritis*, a condition alike violent and obstinate as well as perilous.

Cause.—When not the result of traumatism or toxic agents the disease is nearly always the result of dietetic abuse. Indulgence in nuts, fruits, and sweetmeats between meals is a prolific

source of abuse, oftentimes resulting in gastric disorder and the particular symptoms under consideration. The long prevalence of very hot weather, with the ingestion of indiscreet quantities of ices and ice-water, may serve as a cause. But the most usual cause will be found to reside in complication, excessive quantity, and the use of a diet too hearty for the tender years of childhood.

Pathological lesion, fortunately, we can know but little of, as these cases usually recover under anything like intelligent management, and so cut us off from any opportunity upon the cadaver. Such opportunity would probably reveal a state of much capillary engorgement, with excessive activity of the mucous follicles, giving rise to large mucous accumulations within the gastric cavity. The freedom with which this mucous excess is thrown up during life has given rise to the popular idea that the disease is one of "catarrh," and attributable to "cold." We doubt very much whether sudden reductions in atmospheric temperature ever result in gastric or intestinal fevers, irritation, or inflammation. This mode of accounting for these symptoms only serves as a quietus for that humility which comes from a consciousness of avoidable excess. In other words, it is much more agreeable to the mother to attribute her child's sickness to the recent "cold snap," for which she is, of course, not acountable, than to the eating of a pint of peanuts purchased the day previously.

Prognosis.—This may ordinarily be set down as favorable, especially when there is no intestinal complication in the shape of diarrhœa. In the event of such complication, the tendency to, and result in, inflammation, will be probable, giving rise to gastro-enteritis, the prospect or prognosis in which is always grave as compared with the simple state of gastric irritation.

Diagnosis.—This should be readily apparent from the prominent symptoms, and need not require elaboration here.

Treatment.—My own clinical experience inclines me to attach very great importance to the Gelsemium in this fever. Very

frequently no other remedy will be needed. In malarial localities, and seasons of the year, where the fever shows a disposition to become *paroxysmal* and *periodical*, the remedy is additionally indicated. In the hands of an intelligent homœopathist it works a beautiful and prompt relief, where an allopathist, in blindly blundering and butting about against common sense and probabilities, with his large doses of Quinine and Mercurials, will succeed in setting up a state of gastro-enteritis, resulting in the early death of his patient.

Bryonia will be indicated by a moderate amount of fever, heavily furred tongue, with dotted appearance, pointed shape, and glistening red edges and tip, constipation, epigastric pain, and tenderness.

Veratrum Viride.—Great tumult and violence of the heart's action, delirium, convulsions.

Ipecac.—Much nausea and vomitimg, relaxation of the bowels, cough.

Baptisia.—Heavily furred tongue, fetor of breath, abdominal tenderness, relaxation of the bowels.

Antimonium Tartaricum.—Obstinate vomiting of mucus and bile, much constipation, abdominal pain, with tympanites, cough.

Kreosote.—Incessant nausea, retching, vomiting, with prostration; occasional dots or streaks of blood in the matter vomited.

Muriate of Ammonia.—Fever remittent.

For the distressing thirst give teaspoonful drafts of fresh cool water every few minutes.

The local, external application of warmth and moisture over the epigastrium, by means of flannels out of hot water, renewed every half hour, will be of much service.

For the first two or three days as little food as possible should be taken, and only of the lightest and blandest nature.

DIARRHŒA.

This disease is peculiarly a trouble among children between the sixth and twenty-fourth months of age. It occurs in the simple or non-inflammatory and inflammatory forms. It may be either acute or chronic. In that form, without fever or inflammation, it is usually a mild and very simple form of trouble, giving, for a time, little or no cause of complaint other than the personal discomfort and inconvenience of frequent soiling of the person from excessive defecation. Young children seem to suffer much less from simple relaxation of the bowels than adults. Indeed, very considerable freedom of the bowels is rather their normal condition. The case, as to distress and even danger, is far different under the febrile and inflammatory form of the disease. The gravity of the trouble here consists in a marked inflammation of the mucous membrane lining the jejunum, ileum, and colon, constituting a genuine *entero-colitis*, and answering in the main to the colitis—dysentery—of adults. Young children rarely, or probably never, have the genuine colitis of adults.

The colitis or dysentery of adults is usually preceded and attended by *constipation;* the entero-colitis of childhood is preceded and attended by *diarrhœa.*

Cause.—The diarrhœic troubles of infancy have a marked relation to the teething process. Some children rarely get even a single tooth through the gums without relaxation of the bowels. Hot, sultry weather is a prolific source of the difficulty. Dietetic irregularities and excesses cut an important figure as a cause. Filthy, dirty surroundings, in dark, badly ventilated, crowded tenement houses, in the narrow streets of densely populated cities, during hot weather, furnish a regular hot-bed for the trouble. Whether there be in occasional operation as a cause, a certain "atmospheric constitution," is yet an open question. The very general prevalence of the disease at times would seem to give currency to this speculation. Sudden suppression of perspiration, or an extensive cutaneous eruption, may serve to induce

the trouble. When several of these causes are brought into active operation simultaneously the disease may prevail in large numbers with great violence, and in fact assume an epidemic prevalence, with large mortality.

Symptoms.—In simple, uncomplicated cases these are few, marked, and well defined. They are excess in frequency, of soft, pappy, thinnish, or watery alvine dejections, with little or no pain, constitutional distress, or other noticeable trouble, than the mere personal inconvenience of frequent stooling. The stools consist at first of ordinary feculent matter, rendered thin or fluid by serous exhalations into the intestinal canal from its mucous lining, with or without bile, with or without mucus; this latter element being generally an indication that the graver form of the disease is about to set up. Undigested food may also be an element in the stools. The stools may occur every three or four hours, or more frequently; in some cases as often as every hour, for many hours in succession. Thirst is slight, appetite but slightly impaired, sleep only hindered by frequent calls to stool, nausea rare or infrequent.

In the *inflammatory* form, as before stated, we have entero-colitis, characterized by fever, pain, abdominal tenderness, tympanites, frequent stools of mucus or mucus and blood, mixed at first with undigested food and feculent matter, but very early in the disease the mucus and blood are the only elements in the intestinal evacuations. The stools are rather small, are preceded by pain and followed by tenesmus. There is thirst, nausea, anorexia, restlessness, scant urine, furred tongue, dilated pupils, and sometimes delirium, with tendency to convulsions; also, vigilance or coma. Under a comatose condition the stools are likely to be passed unconsciously, which is always to be regarded as indicative of danger.

Prognosis.—In the mild non-inflammatory cases this may be regarded as favorable under anything like judicious management. In the inflammatory form the case is far different, as great danger and even death may take place from brain complication; progres-

sive inflammation of the stomach and bowels; ulceration of these parts; or the symptoms may pass into the chronic form and terminate fatally in atrophy, dropsy, or hydrocephaloid.

Diagnosis.—This need not be difficult, as the thin, frequent stools should leave us without doubt as to the general character of the case. It is important to discriminate between the two forms, inflammatory and non-inflammatory symptoms, which may be readily done, as the presence of much fever, thirst, pain, abdominal tenderness, tympanites, bloody mucous stools, will indicate the graver form, and their absence the milder type of disease. The chronic phase of the trouble is always more or less inflammatory.

Pathological Appearances.—Of course we can know little or nothing of these in the milder forms of the disease, as they do not terminate fatally, and therefore furnish no opportunity for post-mortem inquiry. Unfortunately we are furnished with frequent opportunities for autopsies in the entero-colitic form of the disease. Appearances here are dark vascular congestion, softening of the mucous membrane, ulceration, thickening of the intestinal tunics, recent hæmorrhage, gangrene; the latter appearance being much less frequent than the others. Ulceration will be most probable in the colon; glandular disorder will prevail in the small bowel, especially the glandular apparatus involved in typhoid disease. The rectum and anus will be found, in addition to much inflammation, to evince that state of atony and relaxation which had led to prolapse of the parts during life. In strumous subjects the mesenteric glands will be found enlarged and congested, so as to have precluded their function in the matter of nutrition, adding greatly by their failure to the diarrhœic flux and that state of atrophy with which many of these cases terminate.

The **Mode of Death** will be by rapid exhaustion, cerebral complication, and general constitutional distress, in acute cases; and by atrophy, gradual decay, dropsy, or hydrocephaloid, in chronic cases.

Treatment.—In simple relaxation of the bowels, with yellow

stools, *Mercurius* will nearly always be sufficient. Copious watery stools, with or without nausea, will be relieved by *Ipecac.* Copious watery stools with cool extremities will require *Veratrum album.* Simple cases, not relieved by the before-named remedies, may be more successfully managed with *Calcarea carb.*, especially if the stools contain undigested food. The foregoing quality of stools, with green tinge, will require *Chamomilla* or *Dulcamara.* Stools without bile should be treated with *Podophyllum.* The intervals between doses in this milder type should be from four to six hours.

In the *entero-colitic* variety Aconite should usually begin the treatment, and be continued during the febrile prevalence. Severe fever, with cerebral complications, great frequency of pulse, and copious watery discharges, with delirium, coma, or vigilance, may be safely trusted to the action of *Veratrum viride.* Mucous, or mucous and bloody stools, indicate Mercurius dulcis; mucous and bloody stools, of frequent occurrence and small size, with tenesmus, will call for Mercurius corrosivus. Much abdominal cutting pain will require *Colocynth.* Severe burning distress in the rectum, with irresistible impulse to bear down, will indicate *Aloes.* Large, mushy, variously mixed acid stools, will find relief in *Rheum.* For stools passed in a spastic, squirting, hasty manner, give *Croton tiglium.* In the event of much pain immediately preceding the stool, give *Gratiola.* Small, frequent, watery discharges, with thirst, restlessness, cool extremities, indicating tendency to collapse, will call for *Arsenicum.* The chronic form of this disease will require in the main similar treatment to that for the acute form, with the difference that febrifuge remedies will be in less request; intervals between doses should be longer, the attenuations higher, and the diet should be more nutritious and in larger supply. The preparations of Iodine, Sulphur, Arsenic, Ferrum, and China will be in greater request, especially in lienteric cases. In chronic cases, with large, variable stools, consisting largely of blood and mucus, I know of no better remedy than the Iodide of sulphur. Great benefit will be gained in these cases

by a daily tepid bath, abundant cutaneous frictions, and free exposure in the fresh country mountain air, remote from cities, and if possible, away from flies and mosquitoes, those intolerable pests of a sick baby, leaving it no respite from annoyance, either sleeping or waking, except under the suffocating envelops of curtains and bars. In many of these cases, when reaction after a bath proves to be unsatisfactory, with difficult appetite, much debility, shrivelled skin, much good may be accomplished by daily embrocation, or inunctions with clean deodorized oil. Many practitioners give great preference to the cod-liver oil, but I do not know that it possesses any advantage over other clean animal oils, and besides has the very serious objection of a *fishy* disagreeable odor.

Clinical experience has taught me to attach great importance to the combinations of Phosphorus with Lime, Iron, or Soda, in these long-standing cases, characterized by blood poverty, muscular atrophy, and cerebral and spinal atony. They should be given in 2 to 4 grain quantities, and preferably with the food, three times per day. Whether they act medicinally or as *nutrients* I do not pretend to determine, but incline to the latter view of the matter. Probably no class of cases in the daily routine of professional experience so thoroughly taxes the physician's patience, skill, and diligence as these. The extreme susceptibility of the little patient to so many adverse influences that surround it on all hands, in the way of atmospheric vicissitudes, domestic mismanagement, and therapeutic mistakes, constantly results in countless relapses and drawbacks, much to the discouragement of all concerned. In cases complicated with or dependent upon the teething process, where the gums become livid, swollen, hot, tender, much good may be derived from free incision deep down to the crown of the approaching tooth. The indiscriminate habit of cutting every child's gums who, while teething, may show signs of indisposition, is to be deprecated. When performed under the above-named conditions, the result is sometimes almost magical.

CHOLERA INFANTUM.

THIS is emphatically a disease of infantile life, common to the hot weather of all habitable latitudes, from the equator to the poles, but as hot weather is one of the essential conditions to its prevalence, we find the number of cases ordinarily greater in proportion to the population as we approach the equatorial latitudes. The literature of the disease does not furnish anything special as to history. It has probably been the common lot of infancy in the hot weather of all climes from the earliest history of the race down to our own times. It is a little remarkable that some monographic authorities on pædology give the subject no special consideration, but make incidental allusion to it under the head of such teething troubles as diarrhœa and vomiting. That the two leading symptoms are diarrhœa and vomiting, and that the disease is peculiarly prone to occur during the period of the primary dentition, is all very true; yet we think a mild occasional diarrhœa, and nausea and vomiting, may all occur during any special teething effort, and not constitute what is popularly and professionally known as cholera infantum. A teething infant may have diarrhœa without vomiting; it may have vomiting without diarrhœa; it may have diarrhœa and vomiting both, and yet not present the aspects and peculiarities of the disease under consideration. Cholera infantum seems in many respects to be to infancy what algid or epidemic Asiatic cholera is to the adult. The symptoms are remarkable for suddenness and violence of onset, and the very great celerity with which they progress to a prompt conclusion, in death or convalescence, in the short period of twenty-four to forty-eight hours. It is true, in cases where the symptoms do not terminate fatally, that the stage of convalescence may be abrogated or defeated by the occurrence of certain sequelæ, which may give the case a very protracted and even fatal termination.

Symptoms.—These are few, sharp, and well defined. I am not aware of any statistics on the subject, but I have an idea based

upon experience that the attack is more likely to occur at night than in the daytime or waking hours. The child is awakened at night with manifestations of discomfort and distress, such as moaning, crying, tossing. The probable age is from the sixth to the twenty-fourth month. The prevalence of protracted hot, sultry weather is peculiarly promotive of the attack. A very few minutes after the child gives evidence of being sick, vomiting begins. Sometimes it is wakened from a sound sleep by a profuse, gushing vomiting of watery matters with undigested food. In a very few minutes purging of large watery stools, in matter and appearance much resembling those brought up by vomiting, takes place. Sometimes the purging and vomiting are simultaneous. In violent, decided cases the dejections occur at intervals of ten, fifteen, or twenty minutes, growing successively more and more watery, until they finally assume almost a transparent appearance, with a slightly milky or rice-water color. The skin is soon bathed in a profuse perspiration of a temperature below the normal degree of heat. The thirst for water and ice is intense, which if taken into the stomach are thrown up as soon as and sometimes before they assume the temperature of the stomach. The sense of lassitude, anguish, and unrest is markedly manifest, with great show of prostration in all the energies, whether of the muscular, nervous, circulatory, or nutrient functions. The pulse may have great frequency, but will be found lacking in force and volume. There is absolute loathing of all food, except as it may be in cold and liquid form, with any prospect of alleviation to the distressful thirst. The calorific function grows rapidly more and more feeble until the surface becomes cool or cold, and the extremities very cold and shrivelled. From enfeebled muscularity of the heart the blood accumulates about this organ and within the lungs, giving rise to great haste and embarrassment in the respiratory function. The eyeballs become filmy; the pupils dilated; the lips livid. In short the little sufferer is in a state of collapse. Of course, every case does not present such violence of symptoms. Many of them progress somewhat more

slowly, but with great certainty, to a perilous condition, if not relieved by appropriate management. In the main the programme is one of violent purging, vomiting, and collapse. In some cases there are evidences of cramps, as shown by the sudden shrieks and contortions; but the symptom seems to be much less frequent than in the algid cholera of adults.

Complications.—During the first two or three days these are neither numerous nor probable. But should convalescence fail to set up and the patient survive the first few days a train of sequelæ may be expected, of an obstinate, varied, and perplexing character, in the form of gastritis, gastro-enteritis, colitis, entero-colitis, atrophy, and hydrocephaloid.

Diagnosis.—The symptoms of this disease are so characteristic and sharply defined as to leave the merest tyro or novice in the profession neither opportunity nor excuse for mistake in this quarter.

Prognosis.—In mild cases this may be set down ordinarily as favorable, but should be pronounced by the medical man with some degree of caution, as hot weather and unfavorable hygienic surroundings may suddenly develop a mild case into one of great violence and peril. In very decided cases the prognosis should always be regarded as unfavorable, especially if the surroundings be bad or unfavorable.

Cause.—Undoubtedly protracted sultry, hot weather, acting on the peculiar nervous and cerebral sensibilities of a teething child, is a most important factor in the induction of this disease. Errors in diet act both as predisposing and exciting causes. Abrupt transitions to extremes in atmospheric temperature cause new cases and aggravate those already on hand. The narrow, dirty streets, in crowded localities, with dark, dirty, badly ventilated apartments, in large cities, in conjunction with protracted hot, sultry weather, furnish a regular hot-bed for the growth and spread of this disease. Whether the disease be at any time the result of any peculiar "atmospheric constitution," involving some peculiar toxic element, has not been so far susceptible of demon-

stration. But the fact that the disease at times assumes a well-marked epidemic form, by spreading over large tracts of country, with somewhat diverse topographical, geographical, and geological peculiarities, would seem to render the affirmative of this proposition probable.

The **Mode of Death**, in fatal cases which terminate in the primary stage, seems to be purely from depletion, induced by the profuse alvine dejections resulting in much the same exsanguined condition which we find after violent hæmorrhages, whether active or passive. For, we find, the progress and promise of the case bear a uniform ratio to the volume, fluidity, and frequency of the alvine discharges. In this respect the disease is in marked contrast to the algid cholera of adults, where death sometimes takes place from the toxic effect of the choleraic poison upon the system, without either purging or vomiting; cramps and rapid collapse being the only obvious symptoms.

Sequelæ.—These are of very great interest and importance in symptoms, pathology, and therapeutics. But to treat of them here in all the important points, symptoms, complications, and treatment, would involve a tedious repetition of what must necessarily be said elsewhere under the various heads of gastritis, enteritis, cerebritis, and infantile atrophy. We pass now to a most important branch of our subject,—*treatment.*

The **Treatment** of cholera infantum furnishes an arena upon which homœopathy has won some of her best laurels in competition with self-styled orthodox medicine. The list of remedies is small, but the result prompt, complete, and brilliant. Veratrum album, Arsenicum, Tartar emetic, Ipecac, and Mercurius furnish our chief resource in combating this most fearful group of vehement symptoms, in which the issues of life and death may quickly have a settlement, most adverse to the safety of the patient and reputation of the physician, if the golden opportunities for the timous use of the suitable remedy be lost. To arrest the frequency and alter the character of the alvine dejections, is the matter in hand of primary importance, as it is in this quarter that

the process of depletory exhaustion is rapidly going on, with strong tendency to fatal collapse. The nausea and vomiting are, of course, a source of more or less hindrance and embarrassment, but the depletory and reducing tendency is much less than from purging. The popular apprehension is, in regard to the vomiting, the real source of danger in the purging. In vomiting, the matters ejected are little more than the drink or food recently swallowed. In purging, there is a rapid elimination and excretion of those fibrinous and water components of the blood, which constitute the chief stimuli of the brain and heart, and for the want of which these two great centres of animal vitality are immediately brought to a halt, and collapse and death are the sure and fearful results.

After a long and varied experience in the treatment of this disease, almost every new case brings with it a sort of chronic embarrassment as to whether I shall begin the treatment with the Arsenic or the Veratrum. Probably there are no two remedies coming from such diverse sources of supply, that are so nearly identical in toxical and therapeutic peculiarities and qualities. In the daily rounds of experience if I prescribe the one unsuccessfully, I wish I had preferred the other, and am not slow to make the change. In the main I have a kind of presentiment, that in the immediate outset the Veratrum is the remedy, and so begin the treatment, especially if the stools be very large, serous, and frequent. Should I fail of some impression on the symptoms in one or two hours, I resort to the Arsenic, especially if stools be watery, small, frequent, with thirst and restlessness. For a strong algid tendency, with great thirst and restlessness, with small, colorless, frequent, watery stools, Arsenic should undoubtedly have the preference. In most cases the proper selection between these two heroical remedies will be sufficient for the entire group of symptoms, including the nausea and vomiting. In cases where the gastric symptoms show great preponderance over the intestinal, such preponderance may claim precedence in the character of the prescription, and then the choice will most likely lie between

Ipecac and Tartar emetic. As Tartar emetic is not so congenial to infants, especially in the presence of diarrhœic symptoms, I usually give preference to Ipecac. Should the Ipecac fail, under great persistency and vehemence of the symptom, and especially where there are evidences of abdominal cramps and pains, the Tartar emetic will be the remedy. Should there be a certain even going neck-and-neck pace between the purging and vomitting, an alternation of two carefully selected remedies will be entirely proper. In occasional cases, the diarrhœic symptom having yielded to the proper remedy, there remains a persistent and very troublesome vomitting, to the extent that there is not the slightest tolerance of either drink or food on the part of the stomach. In such an emergency Kreosote at the 2ˣ dilution, in drop doses, every 10, 20 or 30 minutes, on a little crushed ice, will be found a most valuable resource. The application of a mild sinapism over the epigastric region is frequently of much service in the presence of this troublesome symptom. By the way the *modus operandi* of a mustard plaster in such cases has many times been a matter of curious inquiry and speculation with me. There is not even the relation of opposition between the external seat of application and the internal seat of morbidity. There is certainly no direct efficient communication through the medium of nerves, bloodvessels, or fibres. Through what medium then is the external irritation or its influence conveyed to the internal seat of disease with the result, prompt palliative relief? If it be affirmed that the mustard is absorbed and taking up the lines of transit by way of nervous and circulatory apparatus, is ultimately brought to the seat of disease, we are met by the fact that a compress applied out of hot water will produce much the same therapeutic result as the mustard. The fact of palliative relief is plain; the mode of activity not so plain. Would the mustard, if applied as nearly as possible at the origin of the gastric nerves, have the same or even better effect in the relief of the symptoms? But, to return from this digression. Ordinarily the dejections from both the stomach and bowels are watery in color and con-

sistency, with now and then certain shreddy, coagulated appearances, consisting of bits of mucus; or the discharges may present the appearance of milk-and-water, or rice-water. There is a very noticeable and characteristic absence of anything like biliary secretion. For this non-biliary state of the discharges the remedies named will be appropriate. But there does now and then occur a case in which the discharges from both stomach and bowels are tinged with yellow bile. This is comparatively a mild, manageable form of the disease. The remedy is Mercurius dulcis and Ipecac, in alternation, at intervals of one or two hours, at the 1st centesimal trituration. This prescription will rarely prove a failure. Its action is prompt and beautiful. Frequently a single dose of each remedy will be sufficient to bring relief.

As a very general rule the symptoms in this disease are ushered in without febrile appearances. In exceptional cases there may be fever of a vehement type, with convulsive threatenings. In such cases *Aconite* or *Veratrum viride* will be entitled to a place in the treatment; preference as a rule being given to the Veratrum viride in $\frac{1}{20}$-drop doses every 20 minutes, until some favorable impression shall have been made. Under such a complication of symptoms, the Veratrum viride will frequently be equal to the relief of all the symptoms, febrile, convulsive, and choleraic. In the treatment of this disease, some of our most reputable scribes and practitioners give a good account of Croton oil, especially where the discharges are ejected with a sort of spurting or spastic manner. I have no experience in this use of the remedy.

It may be well to state in this connection that Camphor, so beautifully useful in the treatment of adult cholera, has little or no efficacy in the treatment of cholera infantum. Recent experience has brought the *Bromide of camphor* into prominent notice in treating this disease. Every practitioner of experience knows full well that a long list of *sequelæ* is likely to follow this disease, in the shape of gastritis, gastro-enteritis, entero-colitis, chronic diarrhœa, typhoid fever, etc. To enter into a full and minute account of these various diseases, with their appropriate treat-

ment, would be to go over much ground which must be gone over in the management of these affections as primary troubles.

Diet is not a subject of much practical importance in this disease, as the little patient has neither appetite for food nor the ability to make any profitable use of it when taken. In fact, it is not only undesired and unprofitable, but is a positive source of hindrance and embarrassment. Frequent sips of fresh water, without ice, will be found a grateful palliative to the distressing thirst, and, together with a plentiful supply of cool, fresh air, the best dietetic and hygienic course until such time as the subsidence of the gastro-intestinal disease may allow the digestive apparatus the opportunity to resume function. In other words, allow the little sufferer to live on "wind and water" until you get the symptoms under subjection. A most excellent palliative for the thirst and nausea is a teaspoonful of hot water, with one drop of best French brandy at intervals of ten to fifteen minutes.

Climate and climatology are of little or no avail in the immediate treatment of cholera infantum proper. The disease is so violent, and runs its course so rapidly, as to leave neither time nor opportunity for a topographical change with a view to climatic help. A little patient, who is purging and vomiting every ten or fifteen minutes, and who must either get relief or be hopelessly ill in twenty-four to forty-eight hours, has neither time nor strength to flee from Memphis to the mountains, or from St. Louis to the lake shores as a means of cure. But as a preventive expedient, and as a help during convalescence, and for the better management of the various *sequelæ* incident to the disease, climate and topography are of immense advantage. In the first place, I should say it is the general sense of the profession that the disease is both more frequent and virulent in the cities than in the rural localities. In other words, in proportion to the population there will be more cases and more deaths from the disease in the city of St. Louis than in fairly good localities ten miles west of the city. Even in the case of smaller towns and villages, say of two or three thousand inhabitants, there will be found a prepon-

derating advantage, both prophylactic and curative, in favor of rural districts. As between warm and cool climates, of course we always prescribe the cool, northern latitudes. Other things being equal, the disease is less frequent and more manageable under a moderately low than a high temperature. Altitude or elevation seems to cut a very important figure in the ends sought to be attained by climatic selection. During a long residence at Memphis, Tenn., I found great benefit in favor of this class of cases by sending them to the mountains of East Tennessee and Southwest Virginia. I always advised them to get on the mountain-tops for a residence rather than in the valleys between, and thought they did better under such elevated topography. Whether the drawbacks in the valley are hygrometric or miasmal, or both, or neither, I do not pretend to know or dogmatize, but of the fact as to such relative advantage as between high and low elevations I am well assured. When the friends of my little patients have decided in favor of a lake shore or seacoast residence I always advise them to prefer a bluff coast to any flat, low locality. An equable temperature as between day and night, and one day and another, would seem to be of much importance for the purpose now in hand. I should say the temperature between day and night, and any one day and another, should range between 60° and 70° F.; probably 60° to 65° would be better. Frequent, abrupt changes of anything like wide range are hurtful and very undesirable. As to the particular places to which such patients may profitably be sent we have a wide range and abundant resource all the way from the Balize, at the mouth of the Mississippi, to the lake shores of Canada, and on the eastern and western coasts of the continent, due reference being constantly had in selections to the conditions above laid down as to altitude, dryness, moderation, limited range, and equability of temperature. I have already mentioned the mountains of East Tennessee and Southwest Virginia. Lookout Mountain, which belongs to this range, and upon which there are good hotel accommodations, is a favorite summer resort for Southern babies. I have sent babies

for a summer residence to the neighborhood of St. Paul with very satisfactory results, the principal objection to this locality being that the thermometer will sometimes claim the prerogative of too wide a range between day and night, and one day and another, to give the very best climatic advantage. The shores of our large Northern lakes furnish a great variety of resource. Doubtless a better acquaintance with, and a better civilization of various localities on and near the Rocky Mountain range will develop abundant resources in that direction. Did the social and civil condition of the country permit a safe transit and residence we should probably find one of the very best summer resorts for babies on the table-lands near the city of Mexico, where the climate is said to have remarkable dryness, equability, and healthfulness, presenting, in fact, the spectacle of almost perpetual spring. Last, but probably not least of all in importance, be sure, if possible, to select a locality free from *flies* and *mosquitoes*. I have many times seen little patients almost literally eaten up by these pests of a sick baby, allowing neither sleep nor repose except under the suffocative environments of thick curtains and mosquito-bars. And here we are reminded again of the good Doctor Thayer's "shoo-fly" prescription for sick babies.

CONSTIPATION.

As stated elsewhere, every infant or young child, in order to be comfortable, should have from two to four soft, free stools to the twenty-four hours. Default in this particular will be quickly indicated by imperfect sleep, evidences of occasional pain, and a general state of unrest and unamiability. Young children bear a state of moderate relaxation, or even diarrhœa, much better than any tendency to intestinal torpor. At first the condition is simply a matter of personal discomfort and inconvenience, but sooner or later tends to fever, nervous disturbance, or other forms of serious disorder.

Symptoms.—Of course, the prominent one is the failure to stool at the appointed times, or in the partial passage of dry, hard excrement, in deficient quantity. There are frequent calls and effort, with only partial success, or entire failure. The longer the difficulty lasts the more frequent the calls, and the more incessant the effort, until, finally, the state of distress becomes urgent and unendurable. During the effort the face reddens, the eyes become suffused, bearing down is violent, the anus protrudes, or even prolapses, the little sufferer moans and cries from pain and the state of distress; and even partial success, instead of bringing relief, seems rather to intensify the personal discomfort and general commotion. Should partial success be accomplished, in the extrusion of small bits of fecal matter, they are likely to be enveloped in mucus, or mucus and blood. Sleep is defective, in being disturbed by partial waking, or difficult of accomplishment even in a partial or disturbed form, the appetite is poor and freakish, the tongue furred, the stomach rejects food recently taken by eructations or vomiting, the urine is either scant and highly colored, with ammoniacal odors, or is profuse and light-colored. Sooner or later, if unrelieved, fever will be a probable addition to the complement of abnormal appearances, in which event the child may become seriously and even dangerously ill by the addition of inflammation, convulsions, or other violent form of disorders. Of course, in such cases there may be a wide range as to grade of violence and complication, from a state of slight inconvenience all the way up to one of extreme urgency and peril. Occasionally the *denouement* of such a state of intestinal torpor is one of obstinate diarrhœa, violent in form, and very difficult to relieve.

Cause.—In very many instances the trouble seems to be an inheritance from a parentage similarly afflicted, as we see so many infants and children suffer in this way from a tender age, and so continue to suffer in after life until the abnormal condition finally becomes a permanent habit, and may ultimately cease to be a source of any special inconvenience. Immediately at and after

birth the difficulty may be caused by partial or even complete atresia of the anal orifice. Infants who rely on the artificial sources of food supply, are much prone to constipation first, and diarrhœa afterwards. In these cases the trouble may depend upon the quality of the food, but more frequently on excessive quantity and irregularity of interval. Older children get into the trouble from inattention to the call in any systematic manner. Children prematurely at school, when restrained by the school-room rules from attending to the call, fall into evil habits, and become constipated. Confinement within doors during the protracted inclemency of weather, with want of facility for attending to the call within doors, may serve as a cause. In many cases constipation is the result of disorder or disease, in parts either nearly related or more remotely situated, with reference to the intestinal apparatus, as the skin, liver, kidneys, brain, and nervous system. Scrofulosis or tuberculosis of these organs, in a state of incipiency, is much prone to intestinal torpor. Torpor of the liver is probably the most frequent cause of intestinal inactivity, as the secretion of the liver not only performs an important part in the chylaceous process, but probably serves an equally important end in the intestinal peristaltic activity. Even a slight cerebral and spinal torpor, by impairing the activity of the nervous and muscular tissues of the intestines, may make constipation one of the earliest signs of the cerebral and spinal impairment. In cerebro-spinal meningitis and tubercular meningitis, intestinal torpor is usually one of the first indications that matters are going wrong with the little one.

Diagnosis.—The most important point to be determined under this head is to arrive at correct views as to whether the trouble is a primary fault of the intestinal apparatus, or is secondary to serious trouble in some remote organ or function. The correct settlement of these questions is important, both in the matters of therapeutics and prognosis.

The **Prognosis** may always be regarded as favorable and promising when the symptom is the primary malady, but when

secondary to trouble in remote vital organs, the case may be very different.

Treatment.—For this purpose we have very satisfactory resources in such excellent remedies as Nux vomica, Podophyllum, Hydrastis, Veratrum album, Sulphur, Bryonia, Mercurius, Plumbum.

Nux Vomica has a therapeutic range wide enough to embrace nearly all the varieties of the trouble, but is specially indicated in cases of much obstinacy, pain, gastric eructations, anal protrusion, and nervous disorder.

Podophyllum is very effective in cases where pale or ash-colored stools denote a faulty, deficient liver action.

Hydrastis, in case of furred tongue, gastric disorder, fetid breath.

Veratrum Album, for cases with evidence of abdominal cramps, cramps in the legs and feet, for very young children and infants, and where other well-indicated remedies have failed.

Bryonia and Mercurius, in alternation, twelve hours apart, for dark or black sticky stools, with symptoms of gastric impairment.

Plumbum.—This is a most valuable medicine in cases of great obstinacy, with crying and shrieking, from colic.

Sulphur will be indicated in moderate or slight forms of trouble, especially in cases with cutaneous inflammation, and hæmorrhoidal and anal protrusions, pruritus ani.

In this entire class of troubles much will be gained by a proper regulation of the dietetic supply in kind, quantity, and time.

Habit, in regard to the function of stooling, as to time and place, is a matter of much importance, and by a little diligence and adroitness, on the part of the nurse or mother, may be readily brought to bear upon the difficulty, even in the case of very young infants and children.

Massage and frictions over the abdominal walls, practiced two or three times per day, may be made to play an important remedial office.

In the family residence, at the school-room, or any place of employment, every facility should be furnished for responding promptly to the functional impulse, as a little temporary delay or restraint, beyond the time of the stooling impulse, may result in the indefinite postponement of any return of desire for stool, and thus lay the foundation for obstinate, troublesome constipation. New-born infants with obstinate constipation should always be subjected to careful anal exploration with reference to the existence of a possible *atresia*.

COLIC—ENTERALGIA.

This is peculiarly the affliction of infancy from birth up to about the sixth or ninth month of age. In some instances it is mild and occasional; in others so violent and persistent as to be a matter of sore distress, not only to the child, but also to those obliged to remain within the sound of its shrieks and wails. The only palliating and consoling view of such cases is that, such infants thrive and grow in most cases as if entirely well. It is largely a matter of great annoyance to all concerned, rather than any question of peril to the child. In some families with a large number of children, it is so uniform in the experience of each child as to make it seem like a matter of inheritance. In such cases it is usual to attribute it to the quality of the mother's milk; but all sorts of changes as to the sources and quality of the commissary supply make but little change as to the assortment of squalling, kicking, and wailing. The trouble seems to be purely neurotic, being devoid of fever, tenderness, or other evidence of inflammation. It is a neuralgia of the intestinal tunics, usually paroxysmal, and in many instances both paroxysmal and periodical. The very decided and troublesome cases usually begin within the first two weeks of infantile life, and with slight occasional intermissions for a day or a week, will be likely to run through a whole nine months' experience, unless relieved by appropriate

treatment; and in some instances the best of treatment is very far from being a brilliant success. If the infant pass the first month without the symptom, the probabilities are very good for permanent exemption, except temporarily from dietetic irregularities and excess. Race, temperament, fatness, and leanness, do not seem to cut any special figure in the matters of violence, duration, or prevalence. Infants artificially fed seem to be the greatest sufferers, owing doubtless in most cases to excessive alimentation. When the trouble depends upon overfeeding, the difficulty seems much a matter of mechanical inconvenience from overdistension of the intestinal tunics, by the presence within the intestinal canal of flatus and badly digested food. Between the great frequency of occurrence, obstinacy of the symptoms, the proneness to relapses and favorable prognosis, it is much the custom, both in the profession and among the laity, to treat such cases palliatively, and with a triviality neither humane to the little sufferers or creditable to the profession.

Symptoms.—These usually have a mild and somewhat unimportant beginning, in the way of sudden starting, while sleeping or waking, with rolling of the eyes, moaning, and short attacks of crying, followed by intervals of repose. Gradually these indications, each and all, become intensified, with the addition of violent alternate flexing and straightening of the lower extremities, tossing and contortion of the entire body, thrusting the clenched fists into the mouth, knotted and rigid condition of the abdominal walls, the passage of flatus by the mouth or anus, livid, wild expression of the face, cold extremities. Paroxysms of this character may last from ten to twenty minutes, or from one to two hours, and may be repeated several times in the twenty-four hours. Most usually the attacks elect to appear at or about a particular period of the twenty-four hours, and recur with exact regularity at the appointed time. The bowels may be constipated, relaxed, or normal, the more obstinate and violent form being peculiar to the state of constipation. In cases characterized by much tympanites, relief is obtained by free discharge of flatus by the mouth or anus.

It is remarkable that such a violent state of commotion and distress should seem to be attended with so little impairment of the general health and bodily growth and development. In fact the child seems to grow fat under the torture. It takes food eagerly and even greedily; and sleeps perfectly well when not suffering from an attack.

Cause.—In many cases the cause is not at all apparent; the child being well supplied with a healthy mother's milk, which to all appearance is well digested and in no way offensive; the stools being normal in frequency, consistency, and color. In cases attended with intestinal relaxation, the trouble seems attributable to the presence of food in a state of acid fermentation, giving a lienteric diarrhœa. Probably the larger proportion of cases may be set down to hereditary predisposition, aggravated and developed by dietetic defects. In very many instances the trouble is greatly increased and protracted by the mistaken notion from the child's manner, that it is suffering from the want of food, indulgence in which only adds fuel to the flame.

Diagnosis—Prognosis.—The former may be readily gathered from the symptoms enumerated, as the trouble is not at all likely to be confounded with anything else; the latter may be set down as nearly always favorable, as these cases sooner or later reach a spontaneous recovery, if not relieved by medical treatment.

Treatment.—This may be either palliative or curative. For curative purposes, probably, the remedy more nearly applicable to all the cases than any other is the *Colocynth*, which seems to expend its action, both toxic and therapeutic, on the nervous and muscular tunics of the small intestines. It is specially applicable in cases where there is intestinal relaxation. It may be given during the paroxysm as well as the interval.

In cases of much violence and obstinacy with constipation, the *Nux vomica* will be found an excellent medicine. It may be additionally indicated by much flatus with gastric eructations of fermented food.

Cases in which much pain and obstinate constipation are the

leading features may sometimes be beautifully relieved by *Plumbum*, the acetate having the preference.

Pulsatilla will be found serviceable in cases characterized by lienteric diarrhœa with renal disorder.

Mercurius will be called for where the stools are too frequent, with mucus and excessive acrid bile. Dark, black, pitchy stools will indicate Mercury as the medicine.

Podophyllum will be indicated by pale, clay-colored, ashy stools.

In cases of great obstinacy, where these excellent remedies, one and all, seem to fail, advantage may be gained by giving *Sulphur* alone for a few days, and then returning to the specially indicated remedy.

Rheum is suitable for cases with acrid diarrhœa.

Arsenicum.—Attacks periodical, bowels inclined to lienteric relaxation, obstinate coldness of the extremities, and pallor of the face.

Chamomilla.—Of course, no author or teacher, having due regard for his reputation, would fail to mention this fashionable remedy in this connection, though I cannot say I have ever given a dose of it for colic or any other malady with any satisfactory result.

Asafœtida.—Much oppression in respiration from great accumulation of flatus; constant discharge of flatus by the mouth and anus.

Palliation.—This may best be accomplished by hot fomentations to the abdomen, enemas of warm water, and the hot bath.

Diet.—This will be largely a matter of experimentation in each particular case, requiring close observation and frequent changes. Whenever the ingestion of a particular article is followed by pain, vomiting, free eructations, or passes from the bowels undigested, it may be safely taken for granted that the article is wrong in quality, quantity, or time.

DIFFICULT DENTITION.

Dentition is a purely physiological process, and children with a healthy inheritance and good hygienic surroundings accomplish the end without trouble or hindrance of any kind. But so often do unhealthy parents transmit their physical frailties and infirmities to their offspring, and afterwards surround them with unhygienic influences, as to render much of childhood's experience in growth and development painful and difficult, that ought otherwise to be pleasing and agreeable. Whilst many children get their teeth with no manifestation of trouble whatever, it is undoubtedly true that many others show a proneness to fall into disease and even peril at this time, to an extent not true of any other department of childhood's growth and development. The tissues and localities most likely to suffer secondarily during dentition are the brain and nervous system, skin and digestive organs, under the forms of nausea, vomiting, diarrhœa, vigilance, convulsions, and cutaneous eruptions. Along with each or any one of these forms of trouble there will most probably be more or less fever. In some cases we witness much fever with no other pathological condition as a part of the teething process. Undoubtedly very much of what is supposed to be symptoms and sympathies from teething has no foundation in fact, but may be set down as a convenient mode of accounting for that which is not understood, or is accepted and adopted as an explanation of illness from avoidable causes which it is not agreeable to admit, such as errors in diet, dirty surroundings, and bad hygiene generally. As we have said substantially elsewhere, it is much more consoling and agreeable to the afflicted mother to attribute little Johnny's violent illness or death to a severe attack of teething, than to the pound of candy or pint of peanuts, or the complicated dish of "hog and hominy," indulged in shortly before the attack of sickness.

One of the most frequent manifestations of trouble from getting the teeth is a combination of slight fever, restlessness, irritability

of temper, vigilance, and nausea. The symptoms may when considered separately appear slight, but taken as a whole in combination may give rise to considerable distress. If to this combination there chances to be added obstinate constipation, diarrhœa, or convulsions, the case becomes grave, and peril to life should be apprehended. In other instances an obstinate, uncontrollable vomiting is the only symptom. In such cases the physician should be on the alert in his diagnosis, and not attribute to teething an abnormal gastric condition which may have its seat and ultimate explanation in tubercular meningeal trouble. As stated elsewhere under the head of tubercular meningitis, I have myself had some most humiliating and painful experience with obstinate nausea and vomiting among children, supposed at the time to depend on teething, where the cases ultimately terminated fatally in coma or convulsions, with other concomitants going to establish meningeal tubercle as the real cause or explanation of death. While we may not be able to do much or anything effectively to avert either the tendency or result in these adverse cases, we may save ourselves the humiliation of a wrong prognosis and diagnosis by a timely recognition of the true nature of the case. Wherever I find a child of strumous, tuberculous, or syphilitic parentage, with protracted, obstinate nausea and vomiting, I have learned to suspect and fear a more serious and dangerous solution of matters than the simple physiological process of teething.

Constipation.—Sometimes teething children suffer alone from this condition, which when present is likely to ally itself with such other symptoms as fever, colic, restlessness, and vigilance, if not immediately relieved by appropriate treatment. Adults bear a state of constipation for a long time with little or no apparent inconvenience; but the case is very different in infancy, and especially while getting the teeth. Every teething infant should have from two to four stools in the twenty-four hours, in order to be safe and comfortable.

Diarrhœa.—This is far more likely to be the source of trouble to the teething babe than the other extreme of constipation;

not so dangerous probably, but of far more frequent occurrence. The amount of embarrassment and danger from diarrhœa will, of course, depend upon the extent and violence of the symptom, or the fact of such untoward complications likely to arise as fever, nausea, and vomiting, in which event gastro-entero-colitis may supervene in a most dangerous and unmanageable form.

Convulsions, in the absence of other accompanying symptoms, should always be the warning note of a probable meningeal complication, from the presence of tubercle. But convulsions, in connection with fever alone, or with fever and constipation, or fever and diarrhœa, would authorize a change in both prognosis and diagnosis, the former being more favorable, and the latter not necessarily including the idea of tubercle as an element in the composition of the case.

Cutaneous Inflammation, about the face, neck, and scalp, is of frequent occurrence among teething infants. It may present itself in any of the five primitive forms of skin disorder, viz., erythema, lichen, eczema, impetigo, and furunculus, or it may shade off into innumerable combinations and complications of these primitive forms. But the most probable form of the trouble will be eczema of the face and scalp, with a peculiar proneness to locate behind the ears and on the cheeks. The impetigenous and furuncular forms are likely to be distributed more generally over the body. The tendency to this cutaneous trouble as teething complication seems to be much greater in the protracted hot weather than in the opposite extreme of temperature.

The greater tendency to cutaneous disorders among "bottle-fed" children, while teething, raises the question as to whether such troubles, after all, are not much more the result of malnutrition and malassimilation than any direct result of the teething process.

Vigilance is a matter of sore affliction to many infants during dentition. They neither sleep soundly nor protractedly day or night. Sleep is only accomplished in disturbed, half-hour naps, from which the child awakes in a state of great irritability and

unrest, and seems at times on the point of desperation or delirium.

There is a popular idea that certain teeth are relatively more difficult to get than others. I doubt whether this theory or idea is at all confirmed by professional experience. The later primary teeth are probably got with relatively less difficulty, because the child has grown older and stronger, and better prepared to resist hardships and abnormal conditions generally.

Treatment.—To go into a detail of the treatment suitable for these symptoms and conditions, when present as abnormalities of dentition, would involve much tedious repetition of what must be said elsewhere when treating of these abnormal conditions as primary maladies. A few general suggestions, then, must suffice under this head. A daily tepid bath, followed by abundant cutaneous frictions, with free exposure in the open air, will be matters of the very first importance. Every facility and opportunity for abundant sleep should be provided in large, well-ventilated apartments at night, and in the open air in the daytime. The old-time practice of cutting and scarifying the gums indiscriminately has very properly gone out of vogue. When the gums are swollen and livid free incisions are of much service. Frictions to the gums, as contrived by means of toys, or the direct application of the finger to the part, seem both grateful to the patient and useful by relieving excessive sensibility and dispersing the local congestion.

Premature use of the soft, tender, undeveloped teeth, in the effort to masticate hard, crude substances, is a prolific source of pain, inflammation, and premature decay of these most important parts in the animal economy.

SCARLET FEVER.

This is an acute, self-limiting, febrile, eruptive, contagious disease, confined almost entirely to subjects under twelve years of

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age, and very rarely attacks the same individual the second time. The period of *incubation* is variable in a range of five to fifteen days. The poison is very diffusive in its scope of action, readily radiating from a given focus so as to embrace large numbers in a given community; is very effectual in the probability with which all who come within its range will suffer from the disease; abides for a period of twenty to forty days, or even longer, when deposited in the furniture, bedding, and apparel of a particular locality. Adults very rarely contract the disease. In a long experience I do not now remember to have treated but one adult with this affection. Physicians and nurses, in protracted intimate relations with malignant forms of the disease, frequently manifest a group of *bastard* symptoms in the shape of slight fever and facial irritation, but rarely have the trouble in a well-developed form.

Contact is not at all necessary for the propagation and spread of the disease, as it is now well understood that children contract the disease from each other residing on opposite sides of a street, or in buildings several hundred feet apart, without any personal contact or intercourse whatever. Nurses and physicians, in their professional rounds, convey the contagion from one family to another. This fact recently had a most painful exemplification in an occurrence at Memphis, Tenn., where a physician in attendance upon a child with malignant scarlet fever went immediately from its bedside to attend a young woman in her first labor. About four days, or within a week from confinement, she was attacked with fever, followed by eruption and all the well-marked symptoms of scarlet fever, and died. Her adult sister, who was in close, constant attendance, in due time sickened and went regularly through the process of a violent attack, but under my attention recovered. This poison likewise shows great vitality as to time as well as space. Children who go hundreds of miles away with their wardrobes to visit their little friends and relatives, three or four weeks after being pronounced well, frequently convey the poison along with them to the injury of their friends. Children have been known to contract the fever from going to

reside in a residence three weeks after being vacated by children who had recently had the fever, the contagion remaining within the bare walls awaiting the coming occupants. Scarlet fever is decidedly *urban* in its choice of subjects and localities, prevailing much more in towns and cities than in the rural districts, and rather in winter and springtime than in other seasons of the year.

There are two forms of the disease, scarlatina simplex and scarlatina maligna. The first of these simply indicates a mild, and the other a violent form. The scarlatina anginosa is a term applied to cases with much swelling and inflammation of the throat, both external and internal. In addition to these typical varieties there is a wide range of variety and peculiarity from cases so mild and slight as to scarcely be discernible, all the way up to those of such violence as to take life in twenty to thirty hours after the first onset. It is not at all uncommon during a malignant epidemic to have two children die within the same twenty-four hours in one household. The history of the disease as to time is a long one, running far back to almost the very dawn of civilization and the inception of medical practice. Isolated sporadic cases are rare. The occurrence of one case will very surely be followed by others near the same time and locality, so as to constitute an endemic at least, if not an epidemic prevalence. Ordinarily the type of the epidemic will be determined by the type and character of the first few cases, but not always.

Another very marked and painful peculiarity of the disease is the fact, that of two cases, one mild and the other violent at the outset, the milder one will fall into a train of sequelæ and complications and die, while the violent and unpromising one will recover. I saw this well illustrated about two years ago in a family of several cases, some very violent; all got well except a bright little eight-year-old lad, who had a mild attack, and when, as all supposed, on the point of convalescence, fell into suppression of urine, with albuminuria and dropsy, and died three or four days after we supposed him to be doing perfectly well.

Symptoms.—As in most other febrile disorders, these are

ushered in by slight chilliness, of short duration, followed by decided fever, sore throat, red eyes, nausea, vomiting, cherry-tinted lips, scarlet redness in the faucial region, very hot, dry skin. If the fever be violent, there may be pain in the head, delirium, hasty respiration, nervous, unsteady manner, with strong tendency to convulsions. Twenty-four to forty-eight hours after the first symptoms, the rash peculiar to this disease shows itself about the neck and upper portion of the trunk, and rapidly spreads over the whole body. In cases of moderate violence, this rash is unattended by either thickening or elevations on the cutaneous surface, and consists in simple redness, but very decided and well-marked. In more violent cases the skin seems to assume nearly double its usual thickness, with a marked sense of roughness to the touch. In this latter phase of matters, there will be considerable swelling or puffiness of the face, feet, and hands. Intense itching is a very prominent symptom. The diagnostic or distinctive peculiarity of this rash is, that decided pressure with the finger produces a white or discolored spot, which is quickly reinvaded by the surrounding redness as soon as the pressure is discontinued. This appearance is very marked and characteristic, and will rarely or never mislead even the inexperienced practitioner. In measles, you will remember, the eruption is pointed, punctated with pimpular elevations on the skin. In variola and varicella the eruption is pimpular, then vesicular, then pustular. In all three of these eruptive diseases there are interspaces of integument not invaded, at least at the outset. In scarlatina the surface is covered with a diffused, shining red tint, in mild cases, and deep-scarlet redness in decided or violent ones.

The average duration of the rash is about three days, with more or less redness of the skin for five to ten days subsequently, during which time we have what is known as the period of *desquamation*, which consists in a cuticular exfoliation of countless small branlike flakes or particles. About the soles of the feet, and palmar surfaces of the hands, these desquamations come away in particles or shreds an inch or two in length and width.

In well-marked forms of this disease the inflammation of the tonsils and faucial region generally is very prominent, characterized by great swelling, internal and external, much tenderness to the touch, difficult deglutition, obstructed noisy respiration, profuse ropy secretion, flowing abundantly from the mouth, and likewise from the nasal cavities, into which the inflammation very early extends itself from the throat. This discharge, from its ichorous and acrid quality, in spreading over the adjoining parts of the face, from the nose and mouth, extends and spreads the inflammation until the whole aspect of parts is most hideous and uncomfortable to behold.

The **Diagnosis** has already been sufficiently alluded to in the history and symptoms.

The **Prognosis** in this malady is most difficult and uncertain. For, as before stated, of two cases, one seeming violent and unpromising, and the other mild and every way promising, the violent one will or may recover, and the mild one fall into such complication and sequelæ as to result fatally. I scarcely know of any form of disease in which the life of the patient, and the reputation of the attending physician, may be brought so suddenly and unexpectedly into peril.

The **Sequelæ** incident to this disease are numerous and formidable, usually presenting themselves in a chronic form, such as otorrhœa, nasal catarrh, tonsillitis, general debility, local paralysis.

Convalescence is usually tardy and unsatisfactory, even when the primary symptoms and whole progress of the case may have seemed mild and favorable. One of the most serious consequences which may follow is permanent impairment and delicacy of constitution. This is especially likely to happen to children of a strumous taint.

Treatment.—Undoubtedly the great remedy in the management of this disease is *Belladonna*. In very many cases no other will be needed. It seems eminently applicable alike to the febrile condition, the faucial inflammation, the eruptive manifestation, the delirium, vigilance, coma, and any convulsive tendency.

For the comatose condition probably Opium would be better. Among my most agreeable experiences in the therapeutics of this trouble, were those cases in which entire treatment consisted in Belladonna during the day, and a warm bath at bedtime. Cases treated upon this plan have progressed favorably during the primary stage of fever and efflorescence; and I incline to the opinion that they have shown less tendency to complications and troublesome sequelæ.

In the event of much tonsillary swelling, or swelling and inflammation of the cervical glands generally, of course we rely on the mercurials, of which preparation I give decided preference to the Biniodide. Should there be great heat with much dryness in the throat, give it in alternation with Belladonna. Should the local condition be one of moisture or excessive secretion, give the Biniodide alone. Much swelling of the tonsils and adjoining parts with dryness, if not benefited by Belladonna and the Biniodide, may do better if the *Apis* take the place of Belladonna. Cases characterized by a sense of intense heat and burning in the mouth, throat, and nose, will be benefited by the *Cantharis*. Of course, in the earlier stages of the disease, where there is a high grade of reaction, *Aconite* will fill an important place alone or in alternation with Belladonna. Great heat of skin, great frequency of pulse, with a general nervous and cerebral commotion, tending towards convulsions, will call for *Veratrum viride*. Malignant forms of the disease, with tendency to prostration of the vital powers, and a general giving way, will require the use of *Arsenicum*. Should there be cough, with difficulty of breathing, and other indications showing involvement of the larynx and trachea, Tartar emetic or the Kali bichromicum may prove very serviceable. Phytolacca, Arum triphyllum, Causticum, Capsicum, Argent. nitric., have each enthusiastic champions, and are doubtless each, when specially indicated, serviceable, and should be kept in view for difficult and peculiar conditions. In cases inclined to take a typhoid direction, Arnica, Rhus tox., and Baptisia should be kept prominently in view.

The itching so troublesome and prominent in most cases receives important palliative relief by frequent inunction with hog's lard, olive oil, or other oleaginous articles. A favorite domestic application, and really a very excellent one for the itching, is to rub the skin thoroughly with a piece of salt fat bacon. From the very start in the treatment, an important advantage is gained by daily sponging or ablutions of the entire person with warm salt water. The water used in this way seems to act as a febrifuge and as a disinfectant, carrying off both the fever and the poison. An excellent preparation for a comfortable night, is to first wash the patient in the warm salt water, and then follow with the oiling process. The patient's apartment should be kept moderately warm, but well ventilated. During convalescence the greatest care should be observed to avoid exposure in cool or damp weather, or troublesome relapses will surely follow.

A most perilous complication and condition of matters liable to happen in the latter stages of this disease, is scanty albuminous urine, rapidly bringing on dropsy, and most usually terminating fatally in three or four days after the scantiness of urine shows itself. If analysis of the urine should show it to be loaded with albumen, so much the worse for prognosis in the case. The skin assumes a waxy, bloodless look, and is very hot. Serous effusion into the cellular tissue and into one or more of the splanchnic cavities sets up a general hydropic condition, followed by coma, uræmic poisoning, and death.

The remedies in best request for this state are Digitalis, Terebinthina, Arsenic, Apis, Cantharis, and Apocynum.

As a local application for the filthy, excessive, excoriating discharges from the mouth, nose, and throat, probably nothing better can be found than equal parts of the fluid extract of Hydrastis and Glycerin, applied very frequently, by swab, lotion, spray, gargle, or douche, as may be most eligible in a given case.

The various sequelæ must be treated on general principles, according to the features and peculiarities of each individual case.

Prophylaxis.—The importance of isolation between those who

are sick and those who are well will, of course, be apparent. The very frequent disinfection or destruction of soiled linen and dressing, with the prompt removal of all excrementitious and other discharges, will be of the first importance. At the conclusion of a given case all the furniture, contents, and walls and floors of the sick-room should be thoroughly ventilated and disinfected. All children supposed to be under the least risk from exposure should take Belladonna, night and morning, for ten days.

RUBEOLA—MEASLES.

This disease occupies a prominent place among what are known as the eruptive fevers of childhood. It takes its prominence from its frequent prevalence, its occasional violence, its numerous and important sequelæ. It is a contagious, self-limiting disease, which rarely attacks the same individual a second time, and is confined almost entirely to the period of childhood. The contagion is so diffusive and effective as to reach nearly all individuals before the age of ten or twelve years. Those persons who, as infants or children, have the power to resist the contagion, usually retain such peculiarity in after-life, and so escape the disease altogether. Hence it is a rare occurrence to witness an adult case of measles. The disease, though ordinarily propagated by contagion, will occasionally present itself under conditions where no known or probable source of contagion is at all apparent, giving plausibility to the surmise in this as well as in most of the contagious forms of disease, that an occasional concurrence of agencies or conditions may result in the production of the symptoms without contagion. As before stated the poison is diffuse or widespread in its range of action, as illustrated in the fact that children residing in adjoining houses, and houses situated some hundreds of feet or yards apart, readily communicate the disease to one another, and thus rapidly spread it over whole neighborhoods. In

this respect it is in marked contrast to the contagion of small-pox, which is only communicable at short range and most surely by actual contact. The state of our knowledge as to the nature and composition of this poison is limited to the simple fact of its power in the production of disease. That is to say, we have not yet attained to definite knowledge as to whether it may be vegetable or animalcular, or neither; we simply know that persons under well-developed action of the poison have the power of sending out an influence which, coming in contact with unprotected children, readily reproduces new cases, and so on indefinitely.

The time elapsing between the date of exposure and the time of diseased appearances, or symptoms, is called the period of *incubation*, and is usually about nine days. This disease is more likely to prevail in winter and spring than at other seasons of the year. It is found oftener in the towns and cities than in the rural districts. This last peculiarity is probably owing to the greater social intimacy in the cities, giving greater facilities for conveyance and spread of the poison.

Symptoms.—In the outset these bear a strong resemblance to the catarrhal affection known as "a cold." The child, from manifestations of chilliness and lassitude, passes to a condition of decided fever, hard barking cough, suffused and injected eyes, sore throat, incessant sneezing, watery discharge from the nose, and intolerance of light. These symptoms have a somewhat uncertain duration before the appearance of the eruption of from one to three days. The mean duration may be set down at about forty-eight hours. The eruption shows itself first about the face and neck in the form of slight red distinct dots, and within twenty-four hours spreads successively to the arms, trunk, and remainder of the entire person. The eruption at first is intangible, but when well developed assumes the condition of countless minute tubercles or pimples, and gives the cutaneous surface a feeling of roughness and thickening to the touch. As the eruption becomes well developed on the lower extremities it begins to fade and disappear on the face and upper portion of the person, and so on in

the same order of succession as in the coming out of the eruption. The entire eruptive process is usually completed in about four days, though the skin may continue disfigured with a reddish blush, with slight desquamation, for two or three weeks. Full development of the eruption is usually characterized by subsidence of the febrile and other preliminary symptoms, except the cough and morbid sensibility to light, which may continue for several days after the subsidence of the eruptive process. The cough is usually a matter of much distress on account of its violence, frequency, and barking peculiarity, strongly resembling the peculiar cough of croup. A perverted state of the gustatory function is nearly always present throughout the entire course of the disease. The patient constantly re-enlightens the nurse with the information that everything in the way of food and drink tastes badly. This perverted taste calls freely for vegetable acids, which seem open to less objection in this way than other articles of food or drink. In the outset of the symptoms the bowels are constipated; as the eruption begins to recede a slight diarrhœa prevails.

Complications.—These constitute decidedly the more serious aspect of this disease. If the fever be violent, convulsions may occur and bring the little patient into great peril. The usual diarrhœa may assume a dysenteric form, and from violence and obstinacy prove a source of much anxiety to the physician and danger to the patient. But of all the complications, bronchopneumonia is the one most to be dreaded. Sometimes this is superinduced by sudden atmospheric changes; at others, by indiscreet use of cold drinks, or improper exposure of the body to sharp currents of cool or damp air, by which the eruption is suddenly dispersed, followed by much cough, difficult breathing, with strong marks of pulmonary congestion. In other cases, where there has been neither atmospheric changes nor imprudent exposure, the pulmonary complication seems to be an outgrowth of the preliminary catarrhal symptoms. Children of slender form, with scrofulous predisposition, manifest a strong tendency to this form of complication.

Sequelæ.—You will not have been long in the practice of your profession, until you will hear much from mothers and nurses as to the "effect of measles." These conditions are usually chronic, and present themselves in the form of otitis, ophthalmia, laryngitis, bronchitis, enlarged cervical glands. Children of the strumous and tuberculous taints are especially prone to these manifestations in a very obstinate form, resulting in a hindrance to growth and development, which may give a permanent delicacy and depravity of constitution, which may become the bane of a whole lifetime, even down to advanced life or old age. You will occasionally cross persons far advanced in life who will tell you they have never been well or strong since having measles in childhood.

The occurrence of measles under the condition of pregnancy is always an unwelcome complication, as the risk of premature birth will be a probability, involving peril to both mother and child. There is a popular notion that a man should not be allowed to enter the marital relations until he shall have safely passed through an attack of mumps without emasculation; and that women should not enter the marriage relation until after an attack of measles.

Diagnosis.—This need not be difficult if the eruption be well out, which having been seen once ought not to be mistaken afterwards. But prior to the appearance of the eruption, it may be a matter of some doubt as to whether the case is one of measles or ordinary catarrh. The extreme persistency of the symptoms, a hard laryngeal and tracheal cough, with little or no expectoration, redness of eyes, and much sneezing, together with the fact that the child has recently been exposed to the contagion, will generally help us to make out the true nature of the case with a good degree of certainty. The fact that the patient has or has not previously had the disease may very properly be taken into account in making out the case. Intense redness of the faucial mucous membrane, without swelling or ulceration, is characteristic of the disease.

Prognosis.—In robust children, with a simple uncomplicated form of the disease, the prognosis may always be regarded as decidedly favorable. In any of the complications mentioned above the case is to be regarded as both difficult and dangerous, especially in children of frail and delicate organization. There is, during the period of convalescence, a certain tendency to relapses, which may convert an otherwise mild and manageable case into one of much perplexity and danger.

Treatment.—In simple uncomplicated cases but little may be called for under this head. Should the preliminary febrile and catarrhal symptoms be decided or violent, Aconite alone, or in alternation with Belladonna, will be requisite; Aconite for the fever and coryza, Belladonna for the faucial and laryngeal irritation. Should there be much cerebral and nervous disorder, with any show of convulsive trouble, Veratrum viride, at short intervals, will be the appropriate remedy. For delayed or insufficient eruption, Pulsatilla is a most valuable remedy. It is also most trustworthy against the obstinate and troublesome cough peculiar to this disease. Should the diarrhœa be mild it will require no treatment, and should be allowed to run its course in a limit of twenty-four to forty-eight hours. Efforts to suppress it immediately might be quite as indiscreet as a premature dispersion or suppression of the eruption. Should the intestinal disorder exceed the limit of mildness in duration or frequency, or become dysenteric, Camphor, Mercurius, Ipecac., Pulsatilla, Sulphur, will furnish the needed resources for relief, according to peculiarities of the intestinal discharge. For bronchopneumonia complication, with much fever, which Aconite may not control, give *Gelsemium* every half hour. For any residue of pulmonary oppression after subsidence of fever under the use of Aconite or Gelsemium, give Tartar emetic every hour until some impression is made, and then at longer intervals for more complete relief. For an obstinate, troublesome cough, which sometimes hangs on after all other symptoms shall have disappeared, give Hepar sulphur and Calcarea, at intervals of two hours. Spongia,

Kali bichromicum, and the Red Iod. mer. do good service in this last phase of the disease, especially the Red Iodide, every two or three hours. A decidedly uniform warm temperature of the apartment for the patient is matter of much importance, especially during the eruptive and convalescent stages.

The diet should be very simple, light, and digestible; the drinks should be warm or hot, and may contain such additions of a saccharine, mucilaginous, or acidulous nature as may be agreeable to the patient. A favorite domestic expedient in the way of a drink is flaxseed infusion, warm or hot, flavored with fresh lemon-juice, and seems to answer a good purpose by soothing and lubricating the irritable mucous membrane, and assuaging the excessive thirst and allaying the perverted and depraved gustatory condition.

The appropriate treatment for the various sequelæ likely to follow this disease will be found under the head of the respective symptoms, such as ophthalmia, otitis, glandular enlargement, bronchitis, etc. It may be proper to state in this place, however, that Conium, Hepar sulph., Calcarea, Sulphur, and Jodium mer., will cut a very important figure in any system of successful treatment.

VARICELLA—CHICKEN-POX.

CHICKEN-POX, in common with the other eruptive fevers, is contagious and self-limiting. It is confined almost entirely to early childhood, is benign in its progress and mode of termination, attacks the same individual but once, has neither sequelæ nor complications. It has a mean duration of about ten days, and is rarely so serious as to confine the patient in bed for a single day. West intimates that it gets the *sobriquet* chicken from its mildness. For a time there was considerable doubt and discussion among pathologists as to its kinship to or identity with a mild or modified form of small-pox. The weight of authority has set-

tled the question negatively as to any such relationship. This settlement of the question is well sustained in the fact that an attack of varicella does not furnish protection against variola, nor does an attack of the latter furnish exemption from the former.

Symptoms.—Usually the first appearance is a mild form of fever, so very mild in many cases as to attract no attention. In some instances the first noticeable indication of disease is the eruption. Whether the fever may not be omitted altogether in some cases is a question. The appearance of fever is usually followed by that of eruption in thirty-six to forty-eight hours. The eruption shows itself first about the neck and trunk, and spreads more or less upwards to the face, and downward to the lower extremities, though the greater display will be under the clothing about the upper portion of the trunk. The points of eruption at the outset are discrete, isolated, though the interspaces may be gradually filled up by successive crops until the papules, nearing each other, may come to touch one another, and so present a partial confluence in a limited way. The eruption is pimpular (papular) at first, presenting the form of a cone, upon a hardened, elevated base. Within a few hours after appearance the papule is surmounted by an acuminated vesicle, with thin, frail walls, so thin and frail as to be easily broken or ruptured. If this vesicle remain undisturbed purulent formation quickly takes place, say within three or four days from first appearance of the papule. Incrustation follows pustulation within forty-eight hours, and desiccation succeeds to incrustation within forty-eight hours more, the whole process from papule to desiccation being completed in eight to ten days. Should the vesicle be ruptured, suppuration, incrustation, and desiccation will be aborted, the appearance subsiding into a reddened papular elevation for a day or two, and then disappearing altogether. As a rule no cicatrix follows the eruption, but exceptionally pits do remain after a decided attack of the disease.

A striking peculiarity in the manner of eruption is shown in the successive appearance of two or three crops, so that the last

may be two or three days behind the first. An intolerable *pruritus* over the whole body, or at least wherever the eruption may appear, sets the child to scratching most vigorously, resulting in the rupture of the vesicles and the arrest of their further progress towards maturity in desiccation and desquamation. The little patient, while treating itself to the luxury of hearty scratching, unconsciously performs an impromptu surgery upon the vesicle which entirely defeats the stages of pustulation, incrustation, and desiccation. The roseate hue of the skin following the eruption subsides within a few weeks, giving the usual normal appearance to the surface lately the seat of inflammation.

Diagnosis.—The only question which may arise under this head will be as to whether the case in hand be one of variola or varicella. The ordinary relative violence of the former, as compared to the latter, will be a prominent help in making out the case. In varicella the febrile stage is both shorter and milder, the eruption appears in successive crops, progresses towards the various stages in much shorter time, and leaves the cutaneous surface without disfigurement; there are neither complications nor sequelæ. The vesicle in varicella is cone-shaped, acuminated, and without the dark dimple or depression in the apex so characteristic of variola. The violent cephalalgia, lumbago, nausea, faucial irritation, and delirium, so common in variola, are never present in varicella.

Prognosis may always be set down as favorable under anything like prudent management.

Causes.—Meigs and Pepper give two causes, contagion and epidemy. The reason for adding epidemy as a cause is not very apparent, as contagion is doubtless the prime, effective source of propagation, whether the disease appear in the sporadic, endemic, or epidemic form. It has much the appearance of stating the result as the cause. This is simply to assign the spread of disease as its cause. We might with as much propriety say that epidemic yellow fever is the cause of the disease, and so

of cholera and plague. It is not probable that varicella is propagated in any other mode than that of contagion. Variola, varicella, rubeola, scarlatina quickly become epidemic under the operation of an effective contagion in densely populated communities, where the relations are miscellaneous and intimate, with few facilties for isolation and separation.

Treatment.—The disease requires little or no treatment. The services of the physician are usually in request at the outset to settle the question of diagnosis; after the settlement of this point his services are seldom needed. A warm bath at bedtime, followed by frictions with any simple, deodorized oil, to allay the itching; a plain non-stimulating diet, with residence within doors for a week, will ordinarily be all the requisites in the way of treatment.

ROSEOLA.

I PLACE this affection among the contagious eruptive fevers, though the weight of authority in the profession is against the theory of contagion, and in favor of placing it in company with urticaria, as being free from contagion, likely to occur frequently to the same individual, and depending for cause upon gastric disorder. In symptoms, etiology, duration, and frequency it is somewhat of a nondescript, bearing in certain points a sort of triple resemblance to scarlatina, rubeola, and urticaria. The eruption is transient, uncertain as to point of appearance, is characterized by considerable pruritus, with gastric disorder; in these respects bearing resemblance to urticaria. The tint of the rash is diffuse and continuous; the eruption is without elevation of surface, and in these respects bears resemblance to scarlatina. At times the rash is somewhat punctated like measles, with more or less of the catarrhal trouble peculiar to rubeola.

My clinical experience has decidedly inclined me to consider it contagious, as I have rarely seen a case in a family of several chil-

dren which was not followed by others, just as we see in rubeola and scarlatina. I do not think I have ever seen but one individual have the second attack, and that an individual of peculiar susceptibility to contagion, as he has had scarlatina, rubeola, yellow fever, and roseola, each a second time.

But differ as we may on other points, all are agreed that it is a very mild form of disease, of rather infrequent occurrence; has a mean duration of five to seven days; results in complete recovery; is without complications or sequelæ.

Meigs and Pepper say the disease is of frequent occurrence. This has not been my experience. West and Buchat do not mention the subject at all. Ellis gives it but a passing, cursory allusion. I think I remember to have seen somewhere a statement to the effect that this, or a very kindred affection, is at times very prevalent in Germany.

Symptoms.—There is usually a slight febrile and catarrhal appearance for twenty-four to forty-eight hours preceding the eruption. The febrile and catarrhal stage is likely to be characterized by more or less nausea. The eruption is much confined to those portions of the person covered by the clothing, and is particularly abundant about the waist and thorax. It appears first on small points or spaces, but larger than the dots or points of measles. The discoloration is rather red, rose-colored, but not the scarlet-red of scarlatina. The surface at the points of eruption is smooth, glistening, and without elevation. In most cases the eruption is attended with decided pruritus. The fever, which is slight, subsides with the appearance of the eruption, as does also any gastric disorder. The disappearance of the eruption is not attended or followed by desquamation. The whole process of fever, appearance and subsidence of the eruption, is usually completed within five days, and in most instances is so mild or benign as not to confine the child in bed even for a single day or hour. The appearance of an eruption is usually a matter of anxiety and surprise to parents, for fear it may be of such malignant or serious type as erysipelas, scarlatina, or variola;

and for the settlement of such grave apprehension, the physician is usually consulted. After the diagnosis in favor of such mild affection as roseola, the medical man usually loses his occupation for the remainder of the case.

Etiology.—As before stated, the weight of authority is adverse to the theory of contagion as the agent or mode of propagation. Meigs and Pepper distinctly affirm, that the disease is non-contagious, and is mainly dependent for cause upon certain gastric and other digestive disorders. Ellis holds to much the same view. My friend Duncan, of Chicago, holds the matter in rather a mixed kind of dubiety, but rather inclines to the theory of contagion. I am decidedly of opinion that the disease is contagious, and for the following reasons: 1st. The disease is mainly confined to childhood's period of life. 2d. It runs its definite, uniform course, as to order, sequence, and duration of the symptoms. 3d. I have rarely witnessed a second attack in the case of the same individual. 4th. I have rarely seen a case in a family of children that was not immediately followed by other cases in the same family. If these four points be tenable, and sustained by facts and experience, they go far to establish analogy between this and certain other diseases well known and admitted to be contagious; and thus by such analogy we furnish strong ground in behalf of the theory of contagion as the agent in the spread and production of the disease. The matter of course is not one of prime practical importance, but it is perhaps just as well, if not a little better, to be right than wrong, even in small matters.

Diagnosis.—This will be best accomplished upon the plan of exclusion, by excluding rubeola, scarlatina, urticaria, and variola, in connection with attention to the symptomatic points and peculiarities already given.

Prognosis.—This may be set down as very decidedly favorable, notwithstanding Dr. Duncan's statement that the disease sometimes results in albuminuria and dropsy. With such a result in a given case, I should incline to the idea that a faulty diagnosis

had got matters so mixed as to mistake a case of scarlatina for one of roseola.

Treatment.—The benign and self-tending nature of the disease leaves but little need for work under this head. An occasional dose of Belladonna, with a warm bath at bedtime, followed by cutaneous frictions with oil, a light non-stimulating diet, and residence within doors for a few days, will be sufficient for both the security and personal comfort of the patient.

VACCINA—VACCINATION.

In the past hundred years of medical literature very few subjects have enlisted so much interest, and furnished theme for so much discussion and controversy, as the eruptive fever known as the vaccine disease. The great practical interest to the profession and humanity has centred in its alleged power to prevent the fearful and loathsome disease known as variola—small-pox. And while for a time, at various periods, superstition, prejudice, and doubt as to its prophylactic powers have hindered its adoption, at present the weight of authority, both in the profession and among the laity, is overwhelmingly in its favor as a preventive measure, and on the side of the conclusion that few discoveries in medical science have been fraught with so great a boon to civilization and humanity. The vaccine disease seems to have been the object of casual notice and attention before, but it is to Dr. Edward Jenner, an English physician, who began his investigations on the subject about 1790, that we are indebted for a theory and practice which, with rare and wonderful sagacity, he reached in a short time, and which subsequent experience and investigation by his successors have done but little to change or modify. To go over the whole subject historically would scarcely be profitable or interesting after the abundant information already given by the various cyclopædic compilers who have given the matter at-

tention. Suffice it to say, Jenner noticed that milkmaids and others engaged in the management of cattle, where the cattle had haderuptions about the dugs, were likely to have a similar eruption or inflammation about the hands and arms, and that these persons, though surrounded by the sources of contagion from small-pox, were almost without exception exempt from the variolous disease. A little further thought and observation brought him to the conclusion that the cow got its disease by inoculation with the variolous matter from the hands of those engaged in the process of milking; that the kine disease was a mild or modified form of variola. He was quick to reach the conclusion that this comparatively mild disease in the cow, if transferred by inoculation to the human subject, ought to furnish protection against its congener, variola. Further observation raised a doubt in the mind of the illustrious investigator as to whether the kine disease might not be attributable to a disease in the feet of horses known as *the grease*. He also indulged other speculations as to the practical identity of variola, vaccina, the swine-pox, and *the grease*. He made certain other observations, which inclined him to the theory that the kine-pox, where large numbers of cattle were closely confined, might have a *de novo* or epizootic origin. It is a little remarkable that these curious and interesting questions as to the primary source or origin of the vaccine disease have received so little additional light and illustration since the days of Jenner as to leave them much where he did—open questions awaiting the industry of future investigation. But over the main practical question, the power of the vaccine disease either to prevent entirely the variolous disease or so modify it as to render it comparatively mild and harmless, there remains now scarcely a reasonable doubt.

The Sources of Supply for practical purposes in vaccination have varied much at different times in the history of the process from two considerations:

1. From the uncertainty as to activity of the vaccine virus, which clearly has great proneness to decay or become inert from

the influence of time, warmth, moisture, and atmospheric exposure.

2. From the real or supposed risk of conveying along with the vaccine matter from the flesh of one person to another such constitutional taints as struma, sycosis, psora, syphilis. To guard against the difficulty of uncertain efficacy, and the much more serious probability and difficulty of the constitutional taints mentioned, the practice is now coming much into vogue of using only the *bovine virus* directly from the cow.

For the accomplishment of these desirable ends, and to keep up a uniform supply, much commendable zeal and industry have recently been set on foot in the establishment of what are known as "vaccine farms," where a supply of healthy young cattle are kept on hand ready for the propagation and supply of matter from time to time as may be needed. From these "farms" the matter is distributed as desired on orders, either in the form of "scabs," or after being reduced to a dilute form by being treated with glycerin or other diluents is placed on ivory or quill points, and so distributed to the places where needed. We think the greater certainty and security of matter obtained from this source, with our greatly increased facilities for correspondence and transportation, by railroads and telegrams, must at an early day make the "farms" the exclusive source of supply.

At Manchester, in this county, near the city of St. Louis, Dr. R. M. Higgins, an intelligent physician, has a "farm," from which I have used the vaccine virus for the past three years with entire satisfaction. Sometimes in hot weather I have had failures with the Higgins virus, necessitating repetitions; but when successful in having the matter "take," the process has never been irregular or excessively violent.

Vaccination.—This is a very simple process, consisting in the deposit of a very small particle of virus on the skin, from which the cuticle has been removed or so incised by the point of a lancet that the virus may readily reach the subjacent cutis vera. The incision or abrasion should be so carefully made as not to cause

hæmorrhage, or the matter may be washed off by the blood-flow. The very slightest show of blood should be the rule. The portion of the person selected is a matter of indifference, provided the function and uses of the part be not such as to interfere with the integrity of the vesicle and pustule. The middle anterior surface of the arm is the point usually selected, and answers perfectly well. The part should be kept exposed until dry before putting on the sleeve. For about three days the point of insertion gives no unusual appearance other than the slight incisions or abrasions. At the end of the third day, sometimes not until the fourth or sixth, a slight reddish papule appears, and by the end of twenty-four hours this papule is surmounted by a translucent globular vesicle, looking much as if a drop of boiling water had been placed upon the skin. By the end of three days from the time of vesication the vesicle has filled with a lymphy pus—becomes a pustule. By this time there is a considerable areola, of a purple or pinkish hue, surrounding the pustule. In about three days from pustulation, incrustation (a scab) takes place, and in about three days more desiccation has so far completed the process that the scab falls off spontaneously, or is readily removed by the fingers; the whole process, from papulation to desiccation, being completed in ten to fourteen days. These dates and figures are given as the rule, to which there may be considerable exception. When the scab is removed the part presents a purplish appearance, which entirely subsides in two or three weeks, when the cicatrix should present a number of pits or dimpled depressions, which remain permanently for life. The depression or dimples in the site of the cicatrix are distinctive or characteristic of the genuine vaccine pustule and process. The periods of papulation and vesication are usually attended by fever and other evidence of constitutional disturbance, but sometimes these are absent altogether, or so slight as not to be apparent. In rare or exceptional cases scattering pustules show themselves at various and other places on the body than the point of vaccination. Ordinarily the local inflammation is circumscribed and mild, but

sometimes it assumes great violence; from constitutional peculiarity or the quality of the virus, erysipelatous inflammation, gangrene, and septicæmia take place, which may terminate in the loss of the limb, and even in death. In other adverse cases, where no such violence of result and complication have taken place, such obstinate cutaneous disorders, with protracted constitutional impairment, have occurred as to give rise to the suspicion of constitutional taint from "bad virus." These occasional adverse results have done much, at times, to hinder the adoption of vaccination. It remains to be seen, in the light of future experience, whether the exclusive use of the bovine virus from the "vaccine farms" will give security against such untoward consequences.

Revaccination.—The necessity and frequency of revaccination have received much attention, and been the subject of much discussion and experiment. The light thus elicited would seem to teach the safety and propriety of repeating the process every few years in childhood, until the system becomes thoroughly pervaded by the virus, which condition is best indicated by the final failure of the virus to make any further impression. The point of saturation or insusceptibility being thus attained seems to remain permanent in all after-life, precisely as the protection from variola against itself, once attained by an attack of the disease, in most cases remains permanent. The popular notion that the protection from vaccination against variola is lost, and should be renewed once in seven years, does not seem founded in fact or reason.

Age.—Unless immediate danger from variola be at hand, it would be well to postpone vaccination until about the third month of life; but in an emergency it might and should be performed at a much earlier age, say within the first week after birth.

Susceptibility to the Disease.—There is a marked difference in individuals and families, and in the same individual at different times, on this point. Some persons resist the virus for a time,

and afterwards become susceptible; others remain permanently insusceptible, and can never be vaccinated successfully. Such insusceptibility to the vaccine virus does not necessarily imply insusceptibility to the variolous poison, so that persons who find themselves unable to get the vaccine disease may get the variolous affection at any time when exposed to the sources of infection.

Mode of Communication.—This can only be by placing the virus on an abraded surface. There is neither fact or experience going to show that it is ever communicated by exhalations through atmospheric communication, nor by placing the virus on an unabraded surface; differing markedly in this particular from variola and the other eruptive fevers.

Extent of Protection.—Ordinarily this is complete as against the variolous disease. In exceptional cases such is not the fact; but in these exceptional cases the variolous disease is nearly always very mild, giving what is known as *varioloid*. This varioloid form, however, is always to be regarded as genuine variola in a mild or modified form—variola rendered mild by previous vaccination. I am thus particular on this point, as I have been made ashamed to hear physicians of position and experience talk nonsense on the subject.

Treatment.—When the disease runs a mild, uniform, uncomplicated course no other treatment will be needed than a plain non-stimulating diet, with suitable local precaution for preserving the integrity of the vesicle and subsequent pustule. In some instances there is a distressing pruritus in the seat of the pustule, prompting an irresistible desire to scratch and irritate the part, and thereby defeat the integrity and completeness of the process. In the case of young children whose intelligence and volition cannot be trusted, it will be necessary to protect the part by several turns of a bandage, the ends of which must be secured by a few stitches. Should the local areola be a little in excess, with swelling and tenderness, much palliation may be given by the application of a dossil of lint saturated with a lotion composed

of water and glycerin in equal parts, with 10 grains of the Acetate of lead to the ounce.

The rare cases of exceptional violence, tending to gangrene, erysipelas, and septicæmia, must be treated with special reference to the peculiar symptoms, in connection with the best surgical advice, which should always be solicited.

INFANTILE REMITTING FEVER.

THE group of symptoms constituting this disease does not seem to have received anything like distinct rank and recognition until within the present century. Any claim to such recognition has recently been extensively ignored by French and English physicians and authors, under the plea that the disease is essentially *typhoid*, and identical with the typhoid disease of adults. That points of resemblance do exist is admitted; the fact of identity is not established. The two diseases are alike insidious and gradual in their modes of approach; show a strong tendency to similar protracted duration in spite of the best-directed treatment; each has occasional miliary or efflorescent cutaneous phenomena, and are much alike in brain, pulmonary, and intestinal complications. But the points of divergence are numerous and well founded. For instance, infantile remittent is found to prevail in latitudes, localities, and seasons of the year where adult typhoid is infrequent. In the Southern States of America typhoid fever is so rare as scarcely to be regarded as a disease belonging to such latitude. Probably the same might be affirmed of southern latitudes generally; while infantile remittent is largely prevalent in tropical latitudes and warm seasons of the year. If typhoid diseases show a tendency to prevail in warm climates it will most likely be in the winter season, as a complicated addenda to the pneumonias frequently prevalent in the rural districts of warm climates, while infantile remittent will be much more likely

to occur in the warm weather of summer and autumn. Typhoid fever is largely a disease of adults; infantile remittent is an affliction of childhood. Typhoid is rarely aborted or cut short by treatment, but runs a protracted duration, with a mean average of four weeks; infantile remittent is frequently cut short and completely relieved within the first week by appropriate treatment. The cerebral, pulmonary, and intestinal lesions and complications are neither so frequent, violent, or dangerous, nor the pathological appearance upon the cadaver so pronounced and well marked in infantile remittent as in typhoid disease. The period of peril in the infantile fever is during the first week, from convulsions; that of the typhoid disease at the end of four to six weeks by a general waste, prostration, and putridity. The peculiar red, dry, scurfy state of the tongue and sordes of the gums and buccal cavity of typhoid are non-apparent in the infantile disease. The cutaneous appearances of typhoid are less frequent and not so well marked in the infantile fever. In typhoid fever the fever is continuous, and if somewhat paroxysmal is not likely to be periodical. In infantile fever periodicity is well marked as to remission and recurrence of the fever, the disease being both paroxysmal and periodical. The strong tendency and proneness to nervous prostration and putridity in the adult fever is much greater than in the infantile disease. Typhoid fever is at times eminently contagious; it is exceedingly doubtful if any such power of self-propagation attaches to the infantile complaint. The mode of death and rate of mortality are essentially different in the two forms of fever. In typhoid fever the mortality is much greater than in the infantile fever, and is most likely to occur at the end of a very protracted duration. In the infantile cases, if death does not occur within the first week from convulsions or other cerebral and spinal complications the cases usually get well. In the adult cases convulsions are rare; brain and spinal complications of any kind are less frequent, less violent, rarely fatal. As before remarked, death is by a slow process of attenuation, prostration, and putrescency, involving protracted

duration. In childhood's remittent the leading evidences of functional disorder are gastric and cerebral. In typhoid the lungs and small intestines suffer both functionally and organically.

Finally, the modes and results of treatment suitable to the two forms or conditions of disease furnish substantial grounds for the distinction sought to be established.

To the medical practitioner there is a certain popular, convenient resource in treating the two diseases as identical.

If the fever be styled typhoid, there is a popular as well as professional expectation that duration will necessarily be protracted. If the case be diagnosed as remittent there is both a popular expectation as well as demand that relief shall be prompt, peremptory.

This fever is not confined to the cities or the rural localities; it may and does prevail in either. It shows a preference for warm climates, and the warm weather of summer and autumn rather than winter. The probable age for invasion is from two to ten years. A prominent European author thought under his observation boys showed a much greater liability to attacks than girls.

In American experience neither race nor sex seems to have had any influence as to prevalence.

The Name.—Infantile, which both custom and authority have attached to this disease, is a regular misnomer, as it rarely attacks children until they are well passed the infantile period, but much more surely attacks those who are in years remote from the period of infancy. But, rather than add to the jargon and jumble of our already complicated and multifarious nosology and technology, it may be better to adhere to that which both custom and authority have so thoroughly established.

Cause.—In very many instances this does not seem even apparent; in others, neither well established nor understood. In very many cases errors in diet play an important part, such as excessive quantity, defects in quality, irregularity or insufficiency

of interval; each and all leading to local digestive disorders, especially of the stomach, with defective nutrition generally. Bird, an English author and practitioner of prominence, in his translation of Buchut's work on diseases of children from the French to the English, has a note on infantile remittents, in which he states that he found quite a number of his cases, especially in the upper circles of society, attributable to simple excess in quantity of food. Much complication in the number of dishes at a given meal, with an undue proportion of animal food, may be set down as an important factor. If to these be added the malinfluence of hearty night meals, with a plentiful supply of nuts, saccharine articles, and unripe fruits, so much the worse for our little clients. Damp and badly ventilated and poorly lighted apartments may be set down as prolific causes among the poor and destitute of our crowded city localities. The scrofulous cachexia acts powerfully as a predisposing cause, while the before-named ones come into effective play as the immediate or exciting cause.

The close company which this fever in certain seasons and localities seems inclined to keep with what are known as miasmal disorders, would seem to justify the inference that it may occasionally have malarial or miasmal origin. Doubtless in very many instances, several or all of these adverse influences combined conspire to the adverse end,—induction to the disease under consideration.

The **Mode** of prevalence is sporadic rather than endemic or epidemic. It is very rarely epidemic; occasionally it assumes an endemic phase. There is not the slightest reason for supposing the fever is ever propagated in this country by contagion.

Symptoms.—These are somewhat gradual and insidious in their onset. The child is unaccountably and indefinably out of humor and condition for several days before anything well defined is noticeable. During this initiatory stage there is disinclination for food or exercise, poor sleep, slight excess of temperature, thirst, discontent with customary amusements, unamiable temper,

until finally a decided chill, characterized by coldness of the extremities, and a demand for additional clothing and nearness to the usual sources of artificial heat, followed by strong reaction and violent fever, gives "form and shape" to the case. During the first paroxysm, should the reaction be violent and the patient lean and nervous, or fat and plethoric, the tendency to convulsions may be strong and a source of much peril. Children of the intermediate conditions as to fatness or leanness, in this as well as in other febrile disorders, seem less liable to convulsive complications. There is a strong sense of thirst, anorexia, nausea, vomiting. The tongue is furred in the middle and at the base. Through this furred surface the preternaturally elevated papillæ present a shining, red appearance, giving the surface a dotted look, with a glistening redness at the margins, and red, pointed apex. The tongue is protruded in a hesitant, difficult manner, with tremulous motion. In some cases the organ has excessive volume, with a broad surface, thick and blunt apex, thick uniform creamy fur, but with the inevitable dotted appearance so characteristic of the disease. The eyes are red, pupils dilated, with vigilance, restlessness, and delirium. There may be alternations of vigilance and heavy profound sleep, with starting and apprehensive manner at waking. Under such an aspect of matters should there be a somewhat rapid, irregular motion of the eyelids, with the thumbs drawn into the palmar surface, the tendency to convulsions will be strong, and the condition one of much peril.

The skin is hot and dry at the beginning of the febrile paroxysm, but bathed in perspiration at the conclusion.

In most cases the cold stage is one of coolness merely, of very transient duration, little or no rigor or shudder, the transient coolness being confined to the tips of the fingers and toes, the tip of the nose, and upper border of the ears; in fact, is so slight and transient as to be entirely overlooked by patient's nurse or other ordinary attendants.

The pulse will range from 120 to 160 to the minute, accord-

ing to the mildness or violence of the symptoms. The fever thermometer in the axilla or mouth will stand at 102° to 104° or 105°.

The urine is red, scanty, passed frequently with a hesitant shudder, and has a rank ammoniacal odor.

The bowels are more frequently confined, but sometimes present the opposite extreme of diarrhœa.

A short, hacking cough during fever is occasional, but by no means uniform as to appearance in all cases.

The febrile paroxysm is quotidian, and may elect to appear in the morning or evening, but when such election shall have been made, the time will be most punctually observed in the recurrence of symptoms, as well as in their duration, which last will usually be from six to twelve hours.

The period of abatement is usually one of remission, but in exceptional cases, and especially in the latter stages, may be one of complete apyrexia.

The first paroxysm of fever is usually the one of greatest violence and peril; the subsequent ones growing gradually and successively milder until a critical period, about the twenty-first day, brings marked improvement and relief of all the symptoms. Should prompt, judicious treatment be inaugurated at the very inception, the symptoms may be aborted, and the case find a favorable termination during the first week. Under adverse or unfavorable surroundings with violent symptoms, the case may drag its slow length through a weary period of four to six weeks. An efflorescent rash in some cases, a miliary eruption in others, may put in appearance in the second or third week, but not at all invariable either as to time, character, or fact of appearance.

Complications are occasional, but by no means constitute the rule, and when present embrace the brain, lungs, or bowels; the brain by congestion or convulsions during the first or second day, the lungs by inflammation and the bowels by diarrhœa during the second or third week. But very many of these cases run an entire full course to conclusion by recovery or death without

either or any of these complications, which fact is to be regarded as one of the marked distinctions between this disease and typhoid fever.

Diagnosis.—So much has already been said as to points of resemblance and difference between this fever and adult typhoid as to leave but little further to be said under this head.

Typhoid fever is a disease mainly of adults; this one, of childhood from two to eight years of age. Typhoid fever is nearly always in complication with the brain, lung, or intestinal disorder, both functional and organic, with persistent cough, delirium, and diarrhœa; the infantile fever may, and frequently does, run an entire course, with little or no other complication than cerebral congestion or convulsions during the first two or three days. The critical or dangerous period of typhoid is not reached before the end of the third week; that of the infantile fever during the first week. Typhoid fever is very frequently characterized by cutaneous eruptions; the child's fever with infrequency has either.

The infantile fever may be pretty readily distinguished from the ordinary intermittents and remittents of adults by the age of the patient, the somewhat continuous form of the fever during the first week, the red, dotted, pointed tongue, abdominal tympanites, epigastric tenderness, together with the unsuitableness of the bark as a therapeutic appliance.

Prognosis.—The period of peril is during the first two or three days. Should the third day be passed without cerebral congestion or convulsions the future of the case under discreet management may be regarded as decidedly safe and hopeful.

Treatment—Aconite.—Violent, general reaction, characterized by much heat, great arterial tension and activity, much thirst, restlessness, with no special localization in any particular part or organ.

Belladonna.—Flushed face, red eyes, dilated pupils, headache, delirium, sudden starting while sleeping or waking.

Veratrum Viride.—Violent reaction, delirium, brain congestion, thumbs drawn into the palmar surface, convulsions; to be

given in to $\frac{1}{10}$ to 1 drop dose of mother tincture at intervals of twenty to thirty minutes. Should cerebral congestion or convulsions prevent deglutition, the remedy to be given by enema. If violent and protracted convulsions be the special source of embarrassment, the Veratrum, when given by enema, should be given in two to five drop doses, with a teaspoonful of Chloroform diluted with a tablespoonful of water, and repeated every thirty minutes until some manifestation of improvement.

Gelseminum.—Moderate fever, nausea, occipital headache, much relaxation, much perspiration without corresponding febrile abatement; especially useful in cases with evidence of malarial poison; sustaining many of the therapeutic relations to this disease which the various bark preparations do to the intermittents and remittents of adults. It acts equally well in palliation of a given febrile paroxysm or in preventing the next recurring attack.

Bryonia.—Moderate fever, constipation, dry hacking cough with thoracic pain, fever at short irregular intervals, with very slight or imperfect remission.

Baptisia.—Moderate fever, fiery red tongue, nausea, putrid odor about the mouth, epigastric tenderness, diarrhœa. In well-selected cases this remedy sometimes performs a beautiful service by aborting the symptoms and terminating the case within the first week of the attack.

Tartar Emetic.—Fever, obstinate nausea, violent vomiting, heavy creamy coating of the tongue, constipation.

Ipecac.—Much the same indications as for tartar emetic, except that it is ordinarily better suited to childhood than the Tartar and should have precedence in case of diarrhœa.

Mercurius Viv.—Heavily furred tongue, with blunt extremity, excessive volume; yellow mucous, thin, frequent stools, with pain and straining.

Arsenicum.—Marked periodicity of symptoms, much prostration, unequal circulation with coolness and pallor of the extremi-

ties, much thirst, epigastric tenderness, watery diarrhœa, unconscious stool, whether sleeping or waking.

China.—This remedy, and its various alkaloids and resinoids, so much in vogue among allopaths for all forms of fever, is of little worth in the earlier stages of infantile remittent. In the latter stages, where the symptoms become decidedly periodical and paroxysmal, with marked cold stage, hot stage, free perspiration and complete apyrexia, the Cinchona and its various preparations, especially the Quinine, come to serve very valuable purposes.

It is greatly to be regretted that such a really valuable remedy should have been so shamefully abused in its excessive and indiscriminate use as to be very unpopular with many honest, intelligent people, and homœopathic clients especially. When discreetly used, its use is just as homœopathic and just as defensible as any other article in the whole catalogue of therapeutic appliances.

When used indiscreetly in time or quantity it produces increased redness and dryness of the tongue, intensifies the fever, adds to intestinal and gastric irritation to the extent, in many cases, of inducing a sort of artificial or medicinal typhoid. Where the remedy may seem called for, much may sometimes be gained by the cutaneous or endermic use. Dissolve one to two grains of the Sulphas quinia in a tablespoonful of vinegar, to be well rubbed in over the abdomen and along the inner sides of the thighs. The thin, tender, sensitive skin quickly absorbs the remedy; no cinchonism results; the personal discomfort of a bad dose is obviated; the mucous membrane of the stomach and bowels is saved from local hardship of an active but necessary remedy.

Muriate of Ammonia.—This most excellent remedy comes admirably into play under that condition of symptoms where our allopathic friends, much to their vexatious disappointment as well as the hurt of their little clients, persist blindly in the misuse of Quinine. In the earlier stages of the fever, with red tongue, much gastric disturbance, vigilance, and a general morbidity of

the sensorium, Quinine, or any other preparation of the bark, is not only a failure but a positive source of aggravation to all the symptoms, notwithstanding the paroxysmal and periodical manner of the symptoms. Under such a condition of matters the Ammonia furnishes a valuable resource. It should be given in one to two grain doses in solution at intervals of two hours, and is equally well given during the stages of pyrexia and apyrexia. In cases where there may be a co-indication for the two remedies, the Muriate of ammonia and Gelseminum alternate very beautifully.

Diarrhœa.—This symptom, as an indication of local intestinal irritation or inflammation, must now receive special consideration, under the head of treatment. For large, thin, watery stools, sometimes passed so hastily as to be involuntary, give Veratrum album. For unconscious stool, with more or less stupor, give Opium. For simple yellow, watery stool, with or without mucus, give Mercurius viv. For diarrhœa with much pain, give Colocynth. For much obstinacy of large, watery stools, with tendency to prostration, China, Arsenicum, Calc. carb., especially Arsenicum. For diarrhœa with abdominal fulness, scanty urine, Pulsatilla. For dysenteric symptoms, Merc. corr., Pod., Colocynth.

Water.—A most valuable agent in treatment of this fever; valuable both internally and externally, as a beverage, bath, pack, enemata. During the first week little else will be requisite for drink or food than plentiful supplies of moderately cool, fresh, soft water. It should be allowed without stint or limit, as the patient may desire. It allays the intolerable thirst, has a cooling and emollient influence upon the heated mucous surfaces, and depurates the blood by increased cutaneous and pulmonary exhalations and increase of renal secretions. Large daily tepid enemata thrown high up into the intestines have much the same benign influence, and besides serve mechanically to clear out any secretion or accumulation from the intestinal track. A hasty daily tepid bath, followed with abundant frictions to secure prompt reaction, will do much for the personal comfort of the patient as

well as for the better, more favorable progress of the symptoms. The hour immediately preceding bedtime will be most opportune as a means of promoting sleep for the night. In case of great vehemence and persistence of fever, a daily wet sheet pack of thirty or forty minutes' duration, to be followed by a tepid wash of the entire body may prove a most valuable resource. Should the wet sheet pack be inconvenient, or on any account undesirable, a girdle wide enough to embrace the entire trunk from the hips to the arm-pits, out of warm water, with a dry wrapper outside to keep the wet one in snug position and contact with the skin, will be a good substitute. In case of threatened trouble or danger to the brain from congestion or inflammation, great good may be accomplished by the head *douche* every two or three hours. Allow the water to fall from the mouth or spout of an ordinary pitcher in a continuous stream on the back of the head at a distance of three or four feet until at least a gallon shall have been used. The mother and child will raise a great clatter of fuss and opposition; but never heed them, as the good result will abundantly pay for the discomfort and inconvenience of such opposing clatter.

Diet.—As before remarked, during the first week little or no other support is requisite or desired than a plentiful supply of fresh water and pure air, as there is neither appetite nor gastric function. Subsequently, a show of desire for food begins to indicate gastric ability. This indication, with the exhaustion from febrile wear and tear to the solids and fluids of the body, will render prudently selected and suitably prepared food both proper and necessary. For this purpose good fresh cows' milk, stale bread, light animal broths, with such fruits as peaches, grapes, apples, oranges, prunes, will furnish an excellent supply. The fruits should be reduced to a comminuted or pulpy condition, and be very carefully divested of their seeds, core, and rind. In the further progress of the case, when digestion shall have suitably increased in vigor, to the foregoing articles, eggs, oatmeal mush, rice, and plainly boiled meats may be cautiously added.

Convalescence.—The great proneness to relapse, together with the peril incident to such relapse, renders the period of convalescence one of much interest and importance. In cases of decided relapse the symptoms will most likely assume a typhoid type, and the patient be lost. The points of importance to be guarded, are diet, exercise, clothing, temperature. Moderation and circumspection in each and all of these will insure success and safety; excess or negligence in regard to each or any of them may be fraught with the worst of consequences. The period of convalescence should embrace at least one month, during which time the child should never be left alone, or to the management of any other than a thoroughly competent nurse. Patients with a strumous taint should be watched during this period with unusual vigilance, as a faulty or tardy convalescence may result in a most unwelcome development of such taint.

OPHTHALMIA NEONATORUM.

By ophthalmia neonatorum we understand a conjunctival inflammation of the eyes of new-born children. It is comparatively frequent and very important. When properly treated it is usually one of the most remediable of diseases. When neglected or improperly handled it is always dangerous, and often one of the most disastrous inflammatory affections of the eye. The responsibility assumed in its treatment is great, and a thorough understanding of the subject is very necessary. Many a useful life has been blighted, in the first months of its existence, by irreparable blindness, which might have been prevented.

From a purely scientific point of view it cannot be regarded as a peculiar form of conjunctivitis. It usually manifests itself as a purulent, but sometimes as a mucopurulent inflammation.

Causes.—Contagion, either from a leucorrhœal or gonorrhœal

vaginal discharge is a frequent cause; or the child's eyes may have become contaminated by being wiped or cleansed with a soiled cloth or sponge. But most frequently it is not the result of direct contagion, but may follow from exposure of the eyes to bright light, cold winds, or want of cleanliness. If it be due to contagion it will appear in from twelve to seventy hours after the inoculation; hence, if the child be a week or two old before the disease appear, we may feel quite certain that it is not caused by vaginal secretions of the mother.

Symptoms.—The first indications are generally noticed by the nurse, and are evidenced by a slight discharge from the eyes, or the lids are glued together during sleep. In a short time the discharge increases in quantity and changes in quality; it is first mucopurulent, but soon becomes pure pus. The eyelids are now red and swollen. The tarsal margins cake together and pen up the discharge, which is by this time very copious, and streams out in quantity over the cheeks when the lids are separated; and it resecretes with remarkable rapidity. On account of the laxity and delicacy of the infantile lid tissue, there may be great serous infiltration and swelling. The papillæ of the conjunctiva are red and swollen, and there is sometimes a tendency to ectropium. In slight cases the discharge is of a whitish color, scarcely tinged with yellow; in severer forms it is of a deep yellow hue and very profuse.

The disease may also assume a diphtheritic form; then the lids become hard and stiff, with a high temperature. The conjunctiva has a pale, yellow appearance, and the discharge is thin, fibrinous, and flaky, and adheres to the conjunctiva.

Prognosis.—When the child is seen sufficiently early, and proper remedies are applied, recovery is almost certain. It should be remembered, however, that cases occasionally occur of so severe a nature, that all treatment seems unavailing, and under the best of care one or both eyes may be lost. This is more especially so in those cases resulting from gonorrhœal or severe leucorrhœal contamination.

The great danger to be apprehended is in the implication of the cornea, which may result in ulceration, perforation, and prolapse of the iris, which, if not terminating in total destruction of the eye, may be followed by varying degrees of corneal opacity, or serious anterior staphyloma.

Treatment.—As this disease is but a form of purulent ophthalmia, the remedies and general line of treatment will be the same as indicated in that disease.

Every one who has had to deal with cases of this kind will appreciate the difficulties surrounding the selection of *the* remedy; and admitting the efficacy of the properly indicated remedy, experience teaches that its action is in no manner interfered with by adjuvant treatment. Under internal remedies alone, *if definitely indicated*, the inflammation may, in time, be conquered; but in the meanwhile the functional power of the eye may become implicated and totally lost before this is accomplished. Hence, in keeping with an extended and favorable experience, we shall outline the treatment to be recommended as follows:

Prevention—Absolute Cleanliness.—Apply local treatment to prevent or diminish the local resecretion of the purulent discharge; and then administrater the properly indicated internal remedy.

It is a good rule for the accoucheur or nurse to see that the eyes of the new-born child are carefully cleansed as soon after birth as convenient; this is especially urgent if the mother is suffering from leucorrhœal or gonorrhœal disease at the time. The hands of the mother or nurse should be carefully cleansed before touching the child's eyes; and the same care should be taken with all cloths, sponges, or towels used.

As the discharge is very contagious, if only one eye is affected, every precaution should be taken to prevent the implication of the other; this may be done by a small piece of adhesive plaster encircling the eye, leaving the outer or temporal margin unattached. When the disease develops, the child should, if possible, be placed under the care of a special nurse, whose whole

duty is the care of the eyes. The dangerous contagious character of the disease must be remembered, and all who have anything to do with the child should be warned accordingly. Sometimes when the swollen lids are opened, the pent-up pus will spurt out for quite a distance; for this reason it is well for the physician examining such a case to wear a pair of protective glasses, which will allow him to see and not endanger his own eyes. The nurse may do likewise if the case seems to demand it.

The most convenient way to examine the eyes of the infant deserves attention. The eyes of the examiner being first protected as before suggested, the nurse, holding the child in her lap, places its head on a pillow in the physician's lap, who sits facing her. In this way the nurse is in a position to control all movements of the babe, thus permitting a free and unimpeded view of the eyes, as well as being the position best suited for the application of all local treatment.

Cleanliness is essential, and as this is usually left to the nurse, she may be instructed as follows: She should take the child upon her lap, with its head resting upon a small pillow. The head is turned to one side or the other, according to the eye which is to be cleansed. A large sponge or cloth should be placed under the head, to catch the discharge and water as they come away. The lids should be carefully separated, and the secreting conjunctival surfaces exposed. With a small bulb eye-syringe tepid water is gently squirted in from the upper side, and caught below by the cloth or sponge just mentioned. After the eye has been thus cleansed, either of the following local remedies may be applied, regulating the strength and frequency according to the severity of the disease. The medical attendant himself may use a solution of Nitrate of silver, gr. i to gr. iv to ℥j of water, one or two drops, either dropped on or pencilled over the everted conjunctival surface, neutralizing its effect after a few moments by a weak solution of salt-water (gr. v–vi to ℥j). This he may do once or twice each day when the case is severe. A solution of

Alum, gr. ii to gr. iii to ℥j, or Boracic acid, gr. ii to gr. iv to ℥j, or of Borax, gr. ii to gr. iv to ℥j, may be left to be used in the interval. When the disease is severe this may be done after cleansing the eye every hour during the day, and every two hours during the night. If the lids stick together, a little vaseline applied to the lid margins will be of service. While the greatest energy should be used, care should be taken not to overdo.

The remarkable value of internal homœopathic remedies is especially evidenced in this disease. The indications are necessarily almost entirely objective and clinical. In very young babes it is sometimes advisable to give the mother the remedy instead of the child. The following may be consulted with the greatest of advantage, and include the remedies most frequently called for:

Acon.—In the first or congestive stages; child restless, with hot skin.

Apis Mel.—Lids swollen tense; child acts as if eyes painful; hot lachrymations, worse toward evening.

Argent. Nitr.—High grade of inflammation; profuse purulent discharge, which is thick and yellow, secreting rapidly after cleansing; conjunctival surfaces deep red, spongy; violent inflammation threatening cornea. The remedy most frequently called for in bad cases.

Calc. Carbon.—Thick swollen lids; discharge sometimes profuse, sometimes not; in later stages, corneal ulcerations, or resulting opacities; swollen glands.

Hepar Sulph.—Swollen lids sensitive to touch; eyes evidently painful; conjunctiva red and swollen; discharge may be profuse, at times mingled with blood; often associated with a pimply eruption on cheek; lid edges raw at external canthus.

Merc. viv., **Merc. sol.**, and **Merc. corr.** have many similar symptoms; especially adopted in syphilitic subjects. The discharge may be thin and excoriating, or it may be profuse; pains are marked, and are usually worse at night. When conjunctiva bleeds readily on touching, Merc. corr. must be thought of.

Puls.—The discharge is profuse but more mild. The inflammation does not seem to be so violent.

Rhus Tox.—Lids red and swollen, head hot; discharge copious and purulent; often much hot lachrymation. Worse in changeable weather.

Sulph.—Indicated by general appearance of the child. Scrofulous diathesis marked; boils on head or body.

Arsen. alb., Chamomilla, Cupr. sulph., Dulc., Euphrasia, Natr. mur., Lycopod., Silicea, etc., may also be consulted.

CONJUNCTIVITIS—OPHTHALMIA—"SORE EYES."

THE term *ophthalmia* is somewhat vague and uncertain of significance and use. The probable weight of authority and usage confines it to inflammation of the conjunctiva. We define ophthalmia then to be a febrile inflammatory affection of the mucoserous membrane, which, after covering the anterior convexity of the eyeball, is so reflected as to furnish the lining membrane of the superior and inferior palpebræ. It is eminently a disease of childhood; is readily caused or communicated by the mode of contagion; may be sporadic, endemic, or epidemic; is either acute or chronic; and when in the latter form may last indefinitely. The disease seems to have a *de novo* origin sometimes; that is, starts without any known source of contagion, but when so started, propagates readily by the mode of contagion. There are several varieties of conjunctivitis or ophthalmia; as the form now under consideration popularly known as "sore eyes," gonorrhœal ophthalmia, ophthalmia neonatorum, which will receive separate attention elsewhere, and Egyptian ophthalmia. Each of these varieties has certain general symptoms in common; as, much vascular injected redness, great swelling, profuse mucopurulent discharge, intolerance of light, severe pain, fever.

While the symptoms of the "sore eyes" now under considera-

tion have considerable boldness at the outset, in the main they have much less violence, and are fraught with much less danger to the organ than the other varieties.

Symptoms.—This disease usually begins with a sense of roughness beneath the lids, as if from the presence of small foreign particles. The patient adds to this incipient irritation and engorgement, by abundant rubbing and wiping to remove the supposed source of offence. In a little while the parts, both the lids and surface of the ball, become hot, tender, red, swollen; profuse lachrymation sets up, with great intolerance of light, and much impairment of vision. The child instinctively resorts to all sorts of shifts and expedients to avoid the light, or any visual effort. The head is kept bowed down, or burrowed in the pillow or clothes, or the darkest corner of the room is sought out to avoid distress. In decided cases these symptoms become heightened and intensified until the distress is very great. This discharge, from being watery, becomes purulent, profuse, overflowing the cheeks and lower parts of the face, and as it dries, agglutinates the opposing tarsi, and firmly occludes the ocular cavity, or in plainer parlance, shuts up the eye. Of course there are milder cases, in which many or all of these symptoms are in a milder or mitigated form. The worse forms of this disease are said to answer pretty well to what are known as Egyptian ophthalmia, with this difference, however, that the Egyptian form frequently results in permanent disfigurement of parts, with loss of function, whilst in the present form of the disease neither loss of function nor any permanent disfigurement of parts is likely to result. If left to itself it is inclined to run a course of four or six weeks' duration, ending in a gradual recovery. In violent cases or strumous subjects it may gradually assume a chronic form, and last indefinitely. In this latter form the disease is mainly confined to the under or inner surface of the lids and tarsi, and in many instances constitutes the *granular ophthalmia* of the books and specialists; which granular condition consists in a sort of vascular engorgement and hypertrophy of the con-

junctival mucous membrane. This granular condition of the palpebral membrane in its roughened state proves a source of friction and injury to the anterior surface of the eyeball, and sets up an irritation there which may in turn become inflammatory. In scrofulous subjects under this chronic condition the tarsi become thick and red, lose the eyelash, and present altogether a most unseemly spectacle. As before stated, this disease shows a disposition to run its course and exhaust its force, and show signs of returning health in from four to six weeks, even where medical advice is not observed; and though the symptoms show such violence at the outset, recovery takes place without disfigurement of parts or impairment of the visual function. But this favorable termination is not without exceptions in the opposite direction. For instance, in cases of violent inflammation, the disease action may pass through the conjunctival or epithelial layer in front of the cornea and result in opacity of the corneal structure, either by lymphy infiltration between its lamina, or ulceration of the cornea may take place, followed after recovery by a cicatricial blemish. Should these opacities or blemishes happen to that part of the cornea immediately in front of the pupil, more or less impairment of vision must result.

Ophthalmia may be followed by *ectropium*, eversion of the eyelids. This last accident is more likely to happen to the lower than the upper lid. It is a very unsightly disfigurement. Another result of purulent inflammation of the eyes is *entropium* or inversion of the eyelids. This accident is likely to happen to either lid, and becomes a source of extreme discomfort and pain from the constant attrition and rasping of the tender eyeball by the inverted tarsi and lashes during the constant winking process. Staphyloma is an unsightly protrusion of the cornea resulting sometimes from purulent ophthalmia. And thus we perceive while this disease, though violent in its symptoms, usually results benignly under anything like favorable surroundings, with good medical advice, yet occasionally very serious and untoward accidents and results do follow.

Cause.—As before announced, a leading source of propagation in this disease is an active, efficient contagion. Filth, destitution, poor diet, bad ventilation, are undoubtedly effective predisposing causes, and probably, when all or several of these predisposing causes co-operate at once, may be the immediate exciting cause in the absence of any quality of contagion. Damp or humid places of residence, in cellars and basements, with bad light, and a dusty, smoky atmosphere, are particularly favorite places of origin and abode for this disease, especially when such places are the abode, as they usually are, of such as have strumous cachexias, and poor, enfeebled constitutions. And when the disease thus gets a start under these local combinations and surroundings, it is kept up and additionally propagated by the contagion which is incidentally engendered. Children, in their intimate relations to parents and nurses who may happen to have gonorrhœa, sometimes have the matter from such source communicated to their eyes with the result of gonorrhœal ophthalmia. This accident, you perceive, may readily happen to the new-born infant, if the mother have gonorrhœa at the time of its birth. Gonorrhœal ophthalmia, by the way, is one of the most dangerous and violent forms of purulent ophthalmia. Physicians and surgeons find it prudent to be on their guard in their own behalf to save themselves from accident while treating gonorrhœal cases.

The inmates of Leath Orphan Asylum, near Memphis, Tenn., got into a trouble from ophthalmia, and for a whole year, from one-half to three-fourths of 50 or 60 children suffered, and never did get relief until ample additions to the buildings enabled the authorities to separate those in affliction from those that were well. The joint use of the same towels and washbasins seems to afford great facilities for spreading the disease. But this intimacy and miscellany of contact does not seem to be indispensable for conveying the contagion, as it is quite certain that children of separate families, who only make short visits to each other's

place of residence, may communicate the poison one to another, though not nearer to each other than several feet apart.

Treatment.—In the onset of activity and violence, *Aconite* should begin the treatment, which, together with low diet, confinement in darkened rooms, and warm-water applications, may so far subject the symptoms as to require little other treatment than some gentle lotion. Should there be fiery redness of the conjunctiva, with great sensibility to light, *Belladonna* will be the remedy. For large purulent discharge, Euphrasia will be requisite. For much discharge with great swelling, give Euphrasia and Mercurius in alternation every two hours. Should Euphrasia and Mercurius fail, *Pulsatilla* may succeed better. When the acute violence of symptoms shall have been partially controlled and matters come rather to a stand, the local application of one drop of a solution of Argenticum nitricum, 1 gr. to 1 ℥ of water, once or twice per day, will be very serviceable. For milder remnant of trouble, which may not seem to call for the Argenticum nitricum, 1 gr. Sulph. zinc to the ℥ of rose-water, in 5-drop quantities, two or three times per day, locally, will do good service. In the treatment of *chronic* cases, much the same remedies will be called for as in acute, except that Aconite will be in less request, and local applications of more necessity and importance. As a local application in chronic cases, small quantities of Calomel dusted into the eyes twice per day will be found a valuable application. For a certain thickened, ragged, red condition of the edges of the lids, a mild ointment, say 1 gr. of the Mercurius corrosivus to the ℥ of Cosmoline, applied with a camel's-hair pencil once per day, will do good service. For granular lids, this application may be applied lightly once per day by everting the lids and continuing the eversion during the action of the ointment, say for a minute, carefully wiping or sponging off an excess before returning the lids to apposition with the ball. The solid Sulphate of copper, applied once in two days under the same precautions, has been found serviceable. In all or nearly all of these cases there is a poor, perverted, or depraved

state of the general condition, which must receive suitable attention in the use of such internal remedies as Arsenicum, Hepar sulphur, Calcarea, Sulphur. Good hygienic regulations are indispensable; and to prevent relapse and a further spread of the disease, a careful separation of the sick from the well is likewise indispensable.

When these cases become violent, obstinate, or complicated, it will generally be prudent and comfortable to solicit the counsel of a specialist; and in this connection it gives me very great pleasure to make honorable mention of such names as my two particular friends, Dr. Campbell, of this city, and Dr. Vilas, of Chicago; who, from native taste and by liberal opportunities, have attained an order of qualification creditable alike to themselves and our branch of medical practice.

OTALGIA—EARACHE.

This is a most exquisite, violent, unequalled nerve-pain of the aural apparatus, without fever or inflammation—a neuralgia. As a pain it has no equal or parallel of all the aches or ailments that afflict humanity. Patients with headache describe a sensation as if the top of the cranium were being lifted off, or as if a nail were being driven into the cranial vertex; others with toothache speak of *tearing, jumping,* and other agonies in this line. But each or all of these, with a well-applied pair of thumbscrews combined, scarcely equal the exquisite fiendishness of a well-appointed *earache.* It jumps, tears, or darts by turns, or performs each of these movements simultaneously. For variety, it ceases for a moment, just a moment, as if to gain the vigor and advantage of a new start, and then leaps into the arena with the energy of forty demons bent on doing the worst. To those who have had a personal experience in this matter, or who have witnessed the terrible agonies of a suffering child under this afflic-

tion, the foregoing will scarcely be regarded as a fancy sketch. To add, if possible, to its complement of distress, it is peculiarly inclined to occur at night; especially on very cold nights, when everybody would much prefer to remain in a warm, comfortable bed, to being up *en déshabillé*, to take part in the distressful *mêlée*. The trouble is usually secondary to other symptoms, being specially likely to follow a severe catarrhal attack. It is frequently a sequela of measles; sometimes of acute otitis; in other cases is brought on during the night from protracted exposure to bleak, sharp winds of the previous day. Like the other neuralgias, it is very likely to be paroxysmal, and frequently periodical. Strumous children with chronic enlargement of the cervical glands, chronic tonsillitis, and general frailty of constitution, and especially those who are subject to chronic otorrhœa, will be likely to suffer from the trouble under consideration. Habit would seem to exert considerable influence as to frequency of recurrence; so that those children who get fixed in such habit acquire a predisposition, which may readily be brought into play upon the slightest or no known provocation whatever. Frequency of recurrence, with much violence of symptom, must sooner or later result in impairment of the auditory function. Hence, in all cases where the tendency to habit becomes apparent, the advice of a specialist should be taken at once, to prevent distress and save function.

Treatment.—This must be palliative at first, and curative afterwards. To sit down in the presence of so much commotion and anguish, with the "single remedy" in the "minimum dose" at long intervals, would not seem to be just the thing. Palliate the trouble at first, and settle down to systematic therapeutics afterwards. One of the first things to be done is the application of dry heat, or heat and moisture, to the affected part. Sometimes a hot, dry flannel, renewed every few minutes, will answer very well. A small bag of hot table-salt answers the same end, with the additional advantage of retaining heat quite a good while. For moist heat, which in the end will be found more effective than the dry, flannels out of hot water do well. Any

simple hot poultice may serve the same purpose. A favorite domestic appliance is the "onion poultice," which, though disagreeable and untidy, I must confess I have seen give prompt relief. Gentle protracted injections of warm water into the auditory canal, when you can have the approbation and concurrence of the patient, will answer a valuable purpose. These appliances failing of the desired mitigation, very prompt relief may sometimes be afforded by dribbling from a drop measure or the bowl of a warm spoon, into the auditory canal, 6 or 8 drops of a mixture composed of equal parts of tincture of Opium, Sulphuric ether, and Glycerin, immediately after which the outer auditory opening should be filled with soft cotton or wool.

The internal remedies in best repute are Pulsatilla, Belladonna, Nux vomica, Arsenicum, Gelseminum, Colocynth, which should be used during the interval to prevent the next probable recurring paroxysm. It should be remembered that Pulsatilla also has much reputation as a palliative during a given attack, especially in delicate, strumous children, subject to otorrhœa. In cases of marked periodicity, Nux, Gels., Ars., adjusted to the individual peculiarities of the case in hand, will be the proper course. An occasional dose of Sulphur in obstinate cases will be found to do well.

OTITIS, ACUTE AND CHRONIC.

Inflammation of the ear is one of the most common as well as one of the most neglected ills of childhood. Very few there are indeed who escape it. It is neglected, because so common, because it is not understood, and again because of the poor results obtained from the usual form of treatment. It is an important disease, not only on account of the excruciating pains which often accompany it, but also from the disastrous results which frequently follow it.

The limits of our space do not permit of the careful classifi-

cation and analysis which the subject deserves. We may practically consider it under the broad headings of inflammation in the external ear, and inflammation of the middle ear, acute and chronic.

Causes.—Inflammation of the ear may occur in a child at any time from birth on; it has even been asserted that there have been evidences of its existence before birth. It may begin in the ear itself, or it may be associated with and secondary to some other complication.

Children with strumous or other deepseated constitutional taints are especially predisposed. The developing causes may be colds, wetting the hair, or bathing. It may be caused as is frequently the case by catarrhal extension from the throat through the Eustachian tubes into the middle ear. It may accompany or follow any of the exanthemata, as measles or scarlet fever—the latter is peculiarly apt to involve the ear.

It may follow the irritating effects of some injury, or foreign body in the ear. It is sometimes associated with whooping-cough, where the violent efforts in coughing have been known to rupture the drum-head.

When the disease affects the middle ear it is known as otitis media, when the outer canal and ear as otitis externa.

An eczematous inflammation of the meatus auditorius externa, as well as a furuncular or a (?) diffused inflammation in the same locality, may likewise produce pain and discharge.

Symptoms.—In infants the symptoms are at times very obscure, and may be and often are overlooked or misinterpreted.

In a great majority of cases the disease will be located in the tympanic cavity. In fact the ordinary "earache" of childhood is only the popular name for some form of catarrhal inflammation of the middle ear. In this case there will be a tossing of the head, rolling it from side to side, putting the hand up to the side of the head, and rubbing it in the vicinity of the ear. The child is restless and fretful, cries out, and may occasionally scream as if in great agony, which is the case. These symptoms are frequently

mistaken and treated for brain complication, while the trouble may lie entirely in the ear. In catarrhal inflammation of the middle ear, there is usually more or less pain in the beginning, though this is not invariably so. This pain may last for a few days, then often a discharge sets up, and the pain, if it does not entirely cease, becomes much better. This is because the catarrhal secretions in the tympanic cavity, which are either mucous or mucopurulent, and which keep up the irritation by their presence, find exit externally through a perforation in the drum-head, which the diseased condition causes. If the inflammation is violent this perforation may be very extensive, even going on to entire destruction of the membrana tympani, as is sometimes seen in scarlet fever.

The inflammation may also extend to the mastoid cells, implicate the bone, and become violent and serious. In this event it may either produce a disease of the bone, with a discharging sinus externally through the mastoid walls or vicinity, or it may extend inward through the inner plate of the temporal bone and involve the brain itself, resulting in abscess or meningitis, and in such an event end in death.

In the catarrhal form the acute painful stage may be followed by a subacute or chronic condition, in which the hearing is more or less diminished, and the pain is only occasionally felt, as for instance, when aggravated by fresh colds or exposure. This will account for the occasional earache which many children suffer. During such attacks, if there is a perforated drum-head, the running may start up again.

In the chronic catarrhal inflammation there is usually very little pain, but partial deafness may exist, which may be variable, being worse in bad weather. Such children are very liable to throat troubles, have enlarged tonsils, red fauces, and stuffed nose, and are very susceptible to colds.

When the inflammation is confined to the external ear, the symptoms are somewhat different, varying with the extent and character of the disease. In eczematous inflammations the auricle

and parts about it are usually involved. If the eruption extends into the canal it may produce an irritation and some discharge. It may or may not be very sensitive to touch; it is usually not painful unless handled.

Both furuncular and circumscribed inflammation of the outer canal are generally quite painful for some days, until resolution takes place or the active inflammation subsides. The partial or complete closing of the canal, caused by the swelling, will affect the hearing for the time being.

The symptoms of the disease will then depend upon the stage of the disease, and also upon the parts affected.

Prognosis.—The prognosis is usually favorable in the beginning, but is often most unpromising in chronic or neglected cases after the disastrous changes have taken place. Perforation of the membrana tympani by inflammation, while usually very undesirable, is far from being as disastrous as is generally believed.

The prevailing opinion is, that "when there is a hole in. the drum-head, the hearing is lost and the case is hopeless." This is altogether a mistake. The drum-head may be perforated, and the patient still retain a very fair degree of hearing power. If there is a muco-purulent accumulation in the tympanic cavity, which, by its presence and abundance, keeps up the irritation, and threatens to involve the surrounding parts, a perforation is a very desirable thing; so much so, that a small incision through the drum-head is indicated in such a condition, to avert the threatened complication. After the inflammation subsides the perforation, even after it has been considerable, will often close up, and the parts be restored to their normal condition; but this is not the rule. The hole may remain, the discharge keep up, and continue, not only an annoyance, but a threatening source of danger, for the rest of the child's life.

Treatment.—The treatment will necessarily depend upon the stage and character of the disease. We may consider it under two headings: local and internal.

The exact condition of affairs can only be determined by a

direct examination. For this purpose an ear mirror and an ear speculum will be necessary, and these should be included in the outfit of every practicing physician. It should be remembered that diseased ears are often very sensitive, and hence they should be handled with much care and gentleness. Cold is very disagreeable to most ears, and therefore all instruments, and likewise all lotions, used in or about the ear, should be warmed before using. When any trouble with the ear exists, or is suspected, a speculum of suitable size should be carefully introduced into the ear, and the internal parts well illuminated by the mirror. If there is anything in the external canal it will thus at once become evident. Inflammation in the tympanic cavity will involve and change the appearance of the drum-head, causing it to lose its natural pink, pearlish-gray hue, and become either a congested red in the first stages, or a thick whitish-yellow in the latter stages of the inflammation. Perforations will also be thus brought to light. If there is a discharge in the outer canal or an accumulation of wax, this may obstruct the view, and they must be removed before the deeper parts can be properly examined. This is best done with a small bulb-pointed ear syringe. Some care is necessary in using this. The water must be a little warmer than blood-heat, the ear should be gently drawn upward to straighten the canal, and the water then carefully thrown in. The discharge may be caught in a small bowl held under the ear. If the membrana tympani is much involved, perforated, and in a soft, macerated state, the syringe should be used with the greatest care, if used at all. In such cases it will be better to carefully wipe out the canal with a little cotton on a cotton-holder.

The earache of children is frequently quite severe, and calls for treatment. The old-fashioned "sweet oil and laudanum" is not to be recommended. The oil is sticky, it remains in the canal, and will sometimes become a source of irritation. A teaspoonful of warm water, somewhat warmer than blood-heat, poured into the aching ear, will frequently bring speedy relief to the crying child. Poultices should not be used on the ear, as

they will often have an injurious effect on the auricle, the lining membrane of the canal, and the drum-head. When it is necessary to apply heat, which usually brings such relief, a small flannel bag filled with a pint of hot salt, and upon which the child's head may be placed, will retain the heat and bring great relief. When heat fails to relieve the pain in the acute stages, where the drum-head is red and congested, a few drops of a solution of sulphate of Atropia (gr. ij to ℥j) warmed and put in the ear, will often stop it. This should not be repeated too frequently, or be used where there is a perforation in the drum-head.

In furuncular inflammation of the outer canal, an incision at the point of inflammation to let out the pus will frequently be indicated.

In purulent otitis the ear should be kept clean, and in addition to the indicated internal remedy, some astringent lotion may frequently be used with advantage, more especially in the chronic cases. The stronger solutions or violent remedies should be avoided. Sulphate of zinc, gr. iv–vj to half an ounce each of Glycerin and water, warmed, and used a few drops at a time once or twice daily, is one of the most valuable. In bad chronic cases, with destruction of all or most of the drum-head, with offensive discharge, a little finely powdered borax or boracic acid blown into the ear occasionally, will speedily change the case for the better.

The fear of danger from stopping the running ear, and the advice sometimes given by physicians to "let it alone and the child will outgrow it," is, to say the least, based upon a misapprehension of the whole subject.

Aconite.—First stages of inflammation. In beginning of colds; restless, feverish.

Apis Mel.—Burning-stinging pains; red, œdematous swelling of outer canal of ear, with stinging pains.

Arsen. Album.—Chronic cases. Discharge thin, acrid; great weakness and prostration; smarting-burning pains.

Belladonna.— Congestive type, throbbing pains; shooting pains, extending to the throat; red face; sensitive to noise; delirium.

Gelseminum.—Often after exposure to cold winds; headache.

Calcarea Carbonicum.—Chronic cases; purulent discharge; perforation of middle ear; tendency to enlargement of glands; tonsils swollen. In scrofulous children with large abdomen, aggravation in damp weather.

Hepar Sulphur.—Fetid pus from ears. In furuncular inflammation, accumulation of pus in middle ear. Eczema of outer ear, with scurfy eruption behind ears, which are sensitive to touch; caries of bone; heat and redness of ear.

Kali Hydriod.—Very frequently indicated in catarrhal inflammation of middle ear, especially after acute symptoms have passed, and in chronic cases; Eustachian tube closed.

Graphites.—Herpetic eruptions in and about ear; moist, fetid eruption behind ear, not very sensitive to touch.

Mercurius.—Very frequently called for. Muco-purulent, offensive discharge; tearing in ears, worse at night; worse from warmth of bed; very sensitive in and about the ear; enlarged parotid gland; pain shooting and extending to teeth. In disease of the bone.

Pulsatilla.—Redness and swelling of external ear and meatus; disease of middle ear; copious purulent discharge of bland, yellow fluid; Eustachian tube implicated; pains severe, shooting, tearing, tensive; after measles.

Rhus Toxicodendron.—Earache worse in wet weather; bloody pus from ear; red, erysipelatous-like inflammation of outer ear; swelling of left parotid.

Silicea.—Chronic cases. Perforation of drum-head; disease of mastoid; caries; thick sanious discharge.

Sulphur.—Purulent offensive discharge, mostly in left ear. Chronic cases. Eruptions on head, face, and body; itching and bleeding after scratching; scrofulous children; furuncular inflammation.

The following remedies may also be consulted with advantage: Aurum, Chamomilla, Causticum, Nitric acid, Alumina, Bryonia, Tellurium, Valeriana.

ENURESIS.

Definition.—The term enuresis originally signified, "I void the urine in bed." A more extended signification now makes it applicable to all the forms of urinary incontinence, whether consciously or unconsciously performed. Turning over to the surgeon those forms of the infirmity which are secondary to urinary calculi and cystitis, we propose to address attention to that form of the difficulty which obtains among children from two to ten years of age, with no manifest form of organic disease, and where the trouble is largely a matter of vicious habit with occasional functional disorder of the kidneys, whereby from excessive quantity or acrid quality the cystic functions of retention and excretion become so exaggerated as to pass beyond voluntary control.

Symptoms.—The usual and more distressful form of the trouble occurs while the child is asleep, especially during the first two or three hours after falling asleep. In the more aggravated forms of the complaint, as from acrid or excessive urine, the child may soil itself at short intervals during the entire waking hours of the day. Boys seem to be more frequently affected than girls. Whether this is attributable to elongated prepuce, masturbation, and any habit of "handling" themselves is at present an open question, though a probable and plausible solution of difference as between the opposite sexes. Superior sensibility and modesty on the part of girls, rendering them more vigilant in guarding against the accident, probably furnishes additional grounds of difference. This juvenile infirmity is of much more frequent occurrence among tolerably healthy children than might at first be supposed by those not especially and professionally cognizant

of childhood's life and habits. The probability is that one-half of all children, at some time or other, are thus troubled between the ages of two and ten years. The attainment of puberty usually works a spontaneous cure. Very few children continue to suffer after this period.

The **Influence** of the habit upon the individual physically, mentally, and morally, is noteworthy. The fear and humiliation of exposure brings timidity, shamefacedness, insincerity, and prevarication. The contact with wet, soiled linen brings personal discomfort, loss of sleep, impaired bodily temperature, liable to result at any time in well-defined disease. This adverse influence upon the mental, moral, and physical condition of childhood's sensitive and impressible nature, doubtless in many instances so influences the child's early history and tendency as in some sort to leave a marked, indelible impress, to last throughout life. This view of the matter is here placed in a strong light, in behalf of such little sufferers, from the fact that both physicians and parents too often treat the matter with levity, inattention, and sometimes cruelty, instead of a diligent, rational attention and sympathizing compassion. In other words, the mismanagement of this seemingly trivial habit may make the child a coward, liar, and invalid for life. The opposite conditions of plumpness and leanness do not furnish much difference relatively as to the prevalence of the habit. For while the nervous and delicate little blonde will likely be in much affliction and trouble on this point, the fat, gross, hearty eater and profound sleeper will in due time furnish his fair proportion of offence in this line.

The **Causes** of enuresis in children who have no organic defect are errors in diet, the excessive use of liquids, and neglect of discipline. By the term discipline it is not meant to inculcate harsh or severe measures, but the simple attention to methodical habits in regard to the function. Very young children acquire good or bad habits under tutelage quite as readily as children of "larger growth." Excessive quantity in diet leading to bad di-

gestion, exaggerated renal secretion, acrid urine, and heavy, profound sleep, readily induces the trouble under consideration.

If this view as to bad hygiene and bad habits be true, it will readily be perceived that the treatment will consist very largely in the correction of such faults.

Large quantities of heavy, varied dishes, especially if taken at a late hour of the evening, will be found to greatly aggravate the difficulty. Such indulgence is hurtful in two ways. First, by greatly increasing the amount of renal secretion; and second, by inducing heavy, profound sleep, to the extent that volition and sensibility are so obtunded that the individual has no consciousness, either as to the fact of a full bladder or of the need of voiding urine.

But few persons, either lay or professional, seem aware of the fact that profuse diuresis quite frequently takes the place of diarrhœa as a mode of relief after excessive table indulgence. Large indulgence in the use of water and other liquids at or immediately after meals, by impairing digestion and adding excessively to the liquid constituency of the system, will greatly exalt the renal secretion and the trouble under consideration, unless there should chance to happen an extra outlet through intestinal activity or cutaneous transpiration.

In the **Personal Management** of these cases the child should always be required to empty the bladder thoroughly before retiring, and then again within two or three hours after retiring, as it is during this first three hours that the accident seems peculiarly likely to recur.

If the child should luckily be "caught in the act," two or three sharp spanks will sometimes be found to act like magic in the correction of the vicious habit. This class of patients should spend much time in the open air, with free exercise; should sleep in open, well-ventilated rooms, on a hard, horizontal surface, without a pillow, and have a tepid bath, followed by abundant friction with a coarse towel or flesh-brush just before going to bed.

As the supine position in bed seems favorable to the occurrence of the trouble, much help will be accomplished in these cases by strapping a thick, hard, convex pad across the loins, so as to prevent the child from getting into such supine attitude.

In those cases seeming to depend upon excessive length or preternatural narrowness of the prepuce, of course the remedy will be the very simple process of circumcision.

Treatment.—The chief therapeutic resource in these cases will be found to reside in Cantharis and Belladonna, the former having largely the preference. In connection with good hygienic management the Cantharis, at about the 2d or 3d decimal dilution, in five-drop doses at bedtime, will rarely fail to effect a cure. In the case of nervous, delicate children, and where the Cantharis has failed, Belladonna will be found a good substitute given as directed in the use of the Cantharis.

An experienced practitioner once told me that he always relieved these cases by the use of the Elaterium at the 2d dilution, given once per day in five-drop doses. I have tried it in some cases and with apparent advantage.

The object in this chapter has been to gather into one compact systematic shape that which should be known and practiced in the management of this class of cases, rather than to promulgate any new or original views, and to meet the defect to be found in nearly all the works on general practice or pædology, where the subject usually gets the go-by in a very cursory, incidental, and incomplete manner.

SCROFULOSIS—SCROFULA—STRUMA.

THESE three terms are nearly or quite synonymous, and are each applicable to the same abnormal or cachectic state of the human system. The term in most common use is *scrofula*, derived from a word which among the Romans signified a hog, and among the Greeks a pig. Whether the disease received such an

appellation from the fact that it was found to prevail so largely in the humbler walks of life among the lowly and vulgar, or from its supposed resemblance to certain diseased conditions of swine, or to the unseemly wattled condition of the neck, resembling that of a diseased hog, are questions not very well settled. But, undoubtedly, both the Greeks and Romans entertained the notion of a swinish relation or peculiarity as characteristic of the disease. Formerly the term "king's evil" was much in vogue, especially among the English, from the supposed efficacy of the royal touch in the cure of the disease. This superstition, which had its start in England, spread rapidly to other European nations, and thus for a time largely increased the functions and prerogatives of royalty, the disease being very prevalent, and medical practice not at all effective in its relief. Few conditions or relations of humanity furnish such incentives to whim, caprice, and superstition as a violent incurable form of disease. Under our advanced hygiene and improved modes of medical practice the disease is both less frequent and more frequently relieved than a hundred years ago, when the royal touch was the indigent sufferer's forlorn hope.

Whilst every stage of life, from the fœtal state to advanced old age, is subject to the disorder, it is peculiarly the affliction of childhood, at about the fifth year of life. Every tissue of the body is liable to be invaded by this unwelcome intruder, the lymphatic glands, skin, and mucous membrane furnishing the most probable seats of attack. In the event of a glandular form of the trouble, the chances are that the appearance will be in the cervical, submaxillary, axillary, inguinal, or mesenteric glands. The cutaneous form will be most probable about the face, ears, or scalp. The mucous form will be most probable in the intestines, the eye, ear, nose, or larger bronchi. The question as to identity of scrofula and pulmonary *tubercle* is as yet an open one. The probabilities are that future investigation will show these two abnormal conditions to be either identical or simply modifications of the same pathological state. Tubercle of the lungs is not nec-

essarily preceded, accompanied, or followed by scrofulous appearances, but the scrofulous cachexia is very likely to be followed by tuberculous manifestation, and a scrofulous parentage habitually propagates an offspring with proneness to pulmonary tubercle. Then, too, the cheesy deposit in a lymphatic gland bears a marked physical resemblance to its pathological congener when found in the pulmonary parenchyma.

The question as to whether the strumous deposit is a *product* of inflammation or is itself, by its functional and mechanical impairment and inconvenience to the part, a *cause* of phlogistic abnormality, is also an open question, with probabilities largely in favor of the theory that disordered assimilation and disassimilation from blood poverty or impurity first furnish the strumous deposit, which, by its presence in the part, acts as a foreign substance, resulting in what is known in pathological parlance as *softening*, and ulcerative or suppurative inflammation. Indeed, this compound process of softening, with ulcerative or suppurative inflammation, would seem to be nature's mode of getting rid of the abnormal deposit. If the amount of deposit be comparatively small the process results benignly, with only slight cicatricial disfigurement of the part. If it be relatively large or involve the welfare of a vital organ the process may result in such local or general constitutional impairment as to terminate in death. This latter consequence we witness in extensive involvement of the mucous tissue of the digestive organs, or the mesenteric glands. The strumous process is usually a slow or gradual one; is chronic. It very rarely presents that celerity and activity of movement which characterizes acute disease.

Children with the scrofulous cachexia or diathesis are remarkable for feeble powers of endurance under violent or protracted exertion of any kind; have feeble powers of resistance in the presence of toxic or disease-producing agencies; suffer great violence of symptoms in sickness; furnish a high mortality rate as a class; make a tardy, unsatisfactory convalescence after disease.

There are two extremes of temperament or peculiarity, the very

reverse of each other, subject to the disease, which for convenience we may style the *blonde* and the *brunette*.

The blonde has flaxen hair in great profusion, light blue, prominent eyes, fair thin skin, sometimes much freckled, blushing scarlet cheeks, short thick upper lip, flat pug nose, projecting front teeth, large thin ears, standing out from the head, long slender neck, long slender fingers with pinkish-incurvated nails, slender legs and arms, full hard abdomen, defective teeth, fetid breath. Such children are poor sleepers, and have poor, capricious appetites at table. They have large brain, with exalted cerebral, spinal, and nervous sensibility, and as a consequence are much given, when indisposed, to delirium and convulsions. Mentally they have much sprightliness and vivacity, amounting at times to remarkable mental precocity. Such precocity, however, is usually characterized by a preference for the lighter, superficial forms of acquirement and activity, rather than profound departments of thought and research. Altogether, these blondish little ones, notwithstanding their physical defects, enjoy certain mental, personal, and amiable graces which render them social favorites, and commend them largely to our sympathy and approbation.

The strumous *brunette* is precisely the reverse of all this, with his low dumpy figure, dark, swarthy, or black skin, blobber lips, low retreating forehead, heavy under jaw, flat heavy nose, high cheekbones, imbecile, repulsive, ungainly manner. Of this class the African race furnishes strongly marked samples, and are by the way so much inclined to the strumous disease that pathologists have given the subject special attention under the title of *cachexia Africana*.

The scrofulous disorder consists essentially in the deposition within the tissues or parts of the human body of an abnormal matter having much the physical appearance of "poor cheese." The size of the deposit is variable, from the merest point scarcely visible by the unassisted eye all the way up to parcels as large as a pea and sometimes much larger. When in very small parcels or points the deposit assumes the shape of infiltration, of which

we have excellent examples in the serous membranes, and especially the cerebral and spinal meninges. As before stated, this *deposit* constitutes the disease; the softening, suppurative, and ulcerative inflammation being subsequent events, which may or may not occur for an unlimited time after the deposit. Indeed, in some cases the deposit becomes encysted by condensed cellular or areolar tissue, the part invaded becomes accustomed to the abnormal presence, function is unimpaired, and matters progress harmoniously, without softening or inflammation, for the remnant of life. In the cervical glands we witness appearances of the deposit which remain for years, with no other change than occasional increase or decrease in size, and finally disappear as if taken up by absorption, with no appearance of inflammation whatever. As before stated the strumous process is invariably slow, tardy, obstinate, chronic in all its successive features or events of deposit, softening, suppuration, and ulceration. In the suppurative stage it doubtless furnished what the old authors denominated "cold abscess,"—a low, tardy form of inflammation, with but little increase of heat, sensibility, or redness; no pain, but an enormous amount of purulent formation, attended or followed by very slow, unsatisfactory reparatory efforts in the part attacked.

The surface manifestations of the disease are liable to leave very unsightly cicatrices in the shape of ragged, irregular depressions, elevations, and excrescences. Hence we frequently see children, otherwise very handsome and attractive, suffer great disfigurement from these unsightly cicatrices about the face and neck. The experience of every medical man furnishes much of what is called scrofulous disease, where there is none of the characteristic deposit whatever. These are really not cases of scrofula at all, but simply other and ordinary forms of disease, in which the *vis conservatrix* and *vis medicatrix* are enfeebled or hindered by the presence of the strumous cachexia. The child has diarrhœa, eczema, bronchopneumonia, or other form of malady, and is embarrassed in the reparative or curative effort from the lingering influence of the adverse diathesis. While we may safely admit

the possibility of the characteristic deposit in the cutaneous and mucous tissues, yet we think in a very large proportion of scrofulous cases in childhood the deposit will be found confined to the lymphatic glands of the neck, inguinal region, axilla, and the mesenteric apparatus; to which phases of the trouble we propose to give special attention by enumerating the symptoms or appearances in such cases.

Symptoms.—When the disease shows itself in the cervical, axillary, or inguinal region, one of the earliest symptoms is a simple, hard, nodular enlargement of the lymphatic glands of the part; the relative probability of occurrence as to frequency being largely against the cervical glands. The enlarged gland may not, for a very long time, be the seat of either increased heat, pain, or morbid sensibility. The part during such passive state is not subjected to any other inconvenience or drawback than simple disfigurement. The child sleeps fairly, eats well, enjoys its usual sports and activities. All such children are said to be delicate, but such delicacy is not particularly exalted or increased at the commencement of this early or primary enlargement of the affected glands. Sooner or later, however, these enlarged glands begin to manifest signs of distress by cutaneous redness, pain, increased sensibility, increase of size from inflammatory swelling; in other words, *softening*, suppurative inflammation, and disorganization begin. These additional appearances locally will likely be attended by signs of constitutional distress in the shape of fever, impaired sleep, loss of appetite, loss of flesh, and disordered secretion and excretion generally. The ordinary evidences of inflammation, though well marked, are not active or vehement, but moderate and slow to make progress. The physician is importuned in regard to measures for *scattering*, or bringing the swelling "to a head." After an uncertain interval of a few weeks to as many months, it may be, the purulent formation finds vent spontaneously or by the help of the surgeon's knife. The matter discharged is thinnish, watery, milky, flaky, shreddy, or bloody; presenting in a given case any several or all of these qualities.

The quantity is usually abundant, and the process of discharging obstinate and long continued, and out of all apparent proportion to the extent of tissue and parts locally involved. The *benign pus* of the surgeons is notably absent, genuine purulent formation being but an inconsiderable element of the matters discharged. At the point of exit for the discharge a gradual erosion and loss of tissue is likely to occur, resulting in an "open sore," and ultimately an extensive and obstinate ulceration. In long-standing cases the adjoining cellular substances become the seat of extensive lymphy infiltration, with much unseemly swelling and disfigurement of parts. The symptoms, progress, and results will be much the same whether the seat of disease be the neck, axilla, or groin. My own clinical experience inclines me to judge that boys are much more subject to the inguinal form of the disease than girls. Should a boy nearing the virile period be attacked with this form of the trouble, it is always matter of special suspicion and anxiety to parents lest it may be the result of some illicit or impure contact.

Scrofulous Synovitis.—The synovial membrane of any joint may serve as the point of attack by the strumous deposit, but clinical experience and the history of scrofulous affections have shown the knee and hip-joints to be specially liable to this description of trouble. When the disease attacks the knee the symptoms observe much of the tardiness and indolence characteristic of glandular forms of the trouble, with the difference that constant active function of the part usually precipitates a much earlier and more active form of inflammation. The suppurative action causes enormous swelling of the part; erosion and caries of the osseous articular surfaces follow or occur simultaneously, from a simultaneous deposit in the articular surfaces and their investing soft parts. Obstinate hectic fever supervenes, and the patient may be considered fortunate in escaping death at the expense of a permanent anchylosis of the joint.

When the disease attacks the hip-joint it answers to the *morbus coxarius* of the old authors. Gross calls it coxalgia, a term in-

dicating a neurotic rather than an inflammatory affection. The disease in this locality involves all the concomitants and consequences of a scrofulous knee-joint, with large additions on account of the superior functional importance of the part, and the imminent risk to the extensive muscular layers surrounding the part, to say nothing of the chances of lumbar abscess and spinal curvature. Scrofulous disease of the hip-joint, from the violence, complications, and duration of the symptoms, bears qualities of pain, distress, and ruin rarely equalled by childhood's experience in any other disease. In many instances death would seem preferable to the anguish during the symptoms, or the maimed and helpless plight in which the poor patient is left under what is grimly called a recovery.

Tabes Mesenterica.—This is a scrofulous condition of the mesenteric glands. Among the earliest noticeable appearances is a gradual abdominal enlargement, giving to the sense of touch a hard, inelastic, nodular sensation, along with a rapid waste or atrophy of the body elsewhere. As the abdomen grows larger the extremities become smaller, until by and by the enormous abdomen, slender extremities, and pinched, weazened features, and swarthy, sallow skin, give the individual a most pitiable and grotesque appearance. There are four prominent conditions or features in this form of scrofula: great abdominal enlargement, morbid appetite for food, diarrhœa, muscular atrophy. The scrofulous deposit in the mesenteric apparatus so thoroughly obstructs the transit of chyle through the mesenteric lacteals and glands as to induce literal starvation. Little or none of the nutrient chyle reaches the blood, and the little that may eke its way past the scrofulous obstruction has failed to receive the requisite preparation from the preparatory office of the mesenteric glands. The chyle thus cut off and obstructed from its natural channel accumulates in the intestinal canal in such quantities as to produce chylous diarrhœa; this diarrhœa in turn adding to the sources of irritation and exhaustion. The famished condition of the system thus induced by the total failure of the nutrient pro-

cess, induces an incessant sense of hunger,—voracity,—the indulgence of which in turn, adds to the violence of the diarrhœa. Hence we have the picture: voracity, abdominal enlargement, diarrhœa, atrophy. The picture receives embellishment or completion by such additions as moaning, anguish, unrest, sleeplessness, imperfect calorification, profuse cutaneous transpiration, or the opposite condition of extreme dryness and shrivelled, wrinkled appearance of the surface. In short, we rarely find a more hideous, pitiable plight of a sick baby than that presented by a well-marked case of this disease.

Diagnosis is easy, and **Prognosis** thoroughly unpromising.

Age.—This form of the scrofulous disease is most probable during the later stages of difficult dentition.

We think the *mucous* and *cutaneous* forms of the disease are *scrofulous*, rather than caused by a genuine form of scrofulous deposit; especially is this true of any cutaneous form of the trouble. To illustrate: the child has eczema, which is greatly intensified in violence and obstinacy by the scrofulous *diathesis* or predisposition, rather than by the presence of any strumous deposit. If it have bronchitis or diarrhœa, the same violence and obstinacy occurs from the diathesis rather than from the presence of specific scrofulous action. Hence we say of such children, that their diseases are *scrofulous* because of diathesis, and not from actual scrofulous formation. We have before stated that strumous children are more prone to yield to the toxic cause of disease, have greater violence of symptoms, more peril, and reach and accomplish convalescence altogether in a very different manner to that experienced by healthy, robust children.

Scrofulous Eyes.—Scrofulous ophthalmia is characterized by thickening and redness of the tarsi, loss of the eyelashes, granular lids, injected conjunctiva, corneal opacity, and general unsightly, bleared aspect of the organ. If the corneal opacity happen in front of the iritic aperture, partial or complete loss of vision may result, according to the locality and extent of the opacity. Free lachrymation, with partial or complete closure of

the lachrymal canal, sends the tears pouring over the cheek in a most unsightly and uncomfortable manner. In addition, such children are liable to irregularities and inconvenience as to visual range.

Scrofulous Ears.—This aspect of trouble usually presents itself under the phase of chronic otorrhœa. The profusion of fetid discharge, with impairment of function, renders the disease a matter of much personal discomfort and embarrassment to the individual. If long unrelieved, a widespread ruin of both the soft and asseous structures takes place, which may in the end extend to the brain and its meninges, and so bring life into peril. Children of strumous proclivities are much prone to impairment of the auditory function, though neither discharge nor inflammation make any part of the programme in the case.

Chronic ozæna, when not the result of syphilitic taint, is in a very large majority of cases associated with or depends upon the scrofulous dyscrasia. The inflammation begins primarily in the pituitary membrane, and by a gradual process of erosion and ulceration involves the subjacent cellular substances, and in turn the periosteum of the nasal bones. These being denuded of their natural envelope, take on the carious or ulcerative process, and furnish an incessant fetid, ichorous discharge, to the infinite humiliation and personal discomfort of the patient. Whether the inflammatory process in this class of cases be preceded by the special strumous deposit or not, may be a question. But that inflammation happening in the part from any cause, whether toxic or traumatic, will receive great additional quality of obstinacy from the presence of the strumous diathesis, we think does not admit of a doubt. If the disease fail of relief in its earlier stages, and the bones become involved, the symptoms may drag their "slow length" through the weary years of an entire lifetime, bringing ultimately great disfigurement of parts from loss of tissue, and by the hideous fetid, loathsome discharge excluding the poor sufferer from all personal and social relation. Few symptoms, apparently so trivial at the start, give me such imme-

diate anxiety and apprehension as any show of decided inflammation of the Schneiderian membrane of a scrofulous child.

Leucorrhœa.—Strumous girls are very likely to suffer from this symptom, and at an early period; sometimes as early as the fourth or the sixth month of life. The more probable time of occurrence is from the end of the first to the fifth year. The symptom usually brings intense solicitude to the friends, under the idea that it may have been produced by some impure contact, or criminal effort to abuse the child. There is not the slightest ground to doubt that the disease in such cases may be the result of the child's dyscrasia, and entirely independent of any accidental impurity of contact or criminal violence. It is usually very obstinate, and not likely to subside until the accomplishment of an improved and invigorated state of general health. Local applications are of little avail, except as a means of neatness and comfort, and to prevent excoriations.

Cause.—Heredity is undoubtedly the chief predisposing cause of strumous disease. Whether this predisposition to the disease is ever an acquirement, after birth, from the adverse influence of bad hygiene, violent exhausting disease, the syphilitic or other specific taints, is as yet an open question; but that these adverse agents and influences quickly develop or start into activity a predisposition already existing, does not admit of a doubt. While scrofulous parents are the probable persons to propagate a scrofulous offspring, children do not seem always indebted to their next immediate ancestors for such cachexia, but may skip back in the line of ancestry two or three generations for a most unwelcome legacy.

Let it be understood, then, that bad air, filth of person, defective food, dirty surroundings, are ever-active factors as exciting causes where the predisposition already exists. Whooping-cough, rubeola, variola, scarlatina, obstinate, violent, exhausting disease of any kind, each and all quickly set the dormant predisposition into a very undesirable activity. In the upper circles of life, where the general hygienic surroundings are in the main tidy

and excellent, the exciting cause of the disease will be found in too much confinement in pent-up apartments, where the sedulous efforts to "keep out the cold" operate also to keep out the fresh air. Such defective ventilation is especially liable to happen during the long severe winters of high northern latitudes. In harmony with this theory of cause we find scrofulous affections far more frequent in cold than in warm climates; and that strumous and tuberculous patients seek, as if prompted by instinct, a residence in genial southern latitudes, where outdoor exercise may be so abundantly indulged. Of course, bad air is quite or even more effective among the lowly in life, where its pernicious influence is so freely assisted in dark, dirty hovels, with scant clothing, deficient diet, and squalor generally.

Diagnosis.—The physician will be largely assisted in this branch of his duties by keeping prominently in mind that the child has, or has not, a scrofulous ancestry, with or without the physical indications of a scrofulous cachexia. The existence of a bad ancestry, with physical marks of the predisposing cachexia, together with tendency to swelling or enlargement of the lymphatic ganglions, may safely be accepted as indications that the dormant adverse diathesis is about to set up activity.

Prognosis.—While this may not be necessarily very unfavorable, yet it is in the main not very satisfactory. The child may fail to die, but then it does not get well; or getting apparently well, it does not long remain so. Relapses and complications are, as it were, infinite in variety and interminable as to duration. Both physician and parents are kept in the "hot water" of diligence and anxiety in keeping the little one out of trouble until the completion of adolescence. When this disease, or its congener, tubercles, appears in the serous membranes, as the peritoneum or meninges of the brain and spine, it is nearly always fatal. That form just described as *tabes mesenterica* is equally or even more fatal.

Treatment.—The physician's opportunity for practical usefulness under this head will consist, very largely, in the exercise or

enforcement of authority to prevent the scrofulous dyscrasia from springing into activity. The whole domain of a rational and enlightened hygiene should be most sedulously brought to bear for the conservation of vital energy and the maintainance of physiological integrity. Any abnormality or departure from a state of health will, in all probability, bring the individual's abnormal inheritance into active play, or at least furnish symptoms, though not positively strumous, all the more violent and dangerous for such inheritance. To this end such children should literally live out of doors in all bearable weather, eating, sleeping, and romping in the free, pure, open air. The midday *siesta* should be taken on a blanket, under the forest foliage, and the more protracted repose at night under the protection of a roofed but otherwise open balcony. Undoubtedly much of the healthful and reinvigorating influences of seafaring, camp-life, and touring on the open plains, or among the mountains in new, wild countries, away from the social nuisance of close, confined apartments, receives solution in this "open-air" opportunity. The "schoolmaster" should be "abroad," so far abroad that these little ones should have no personal knowledge or experience in regard to any such functionary until ten or twelve years of age. A home should be provided in the rural districts, remote from town or city, where the legs, arms, and stomach may grow and thrive, with little more demand upon the sensorium of the individual than that required of a pig or a chick.

This rational country residence has also an incidental advantage in being remote from the city probabilities and prevalence of such violent diseases as measles, small-pox, scarlatina, diphtheria, whooping-cough, etc., each and all so liable to develop into activity the peculiar dyscrasia which it is so important to keep in abeyance during the tender years of frailty to those who are under this adverse inheritance.

The **Diet** for such children should embrace an abundant supply of pure fresh milk from healthy country cattle. No fevered abomination from stalled-swilled city cows should be allowed

to poison and vitiate digestion and nutrition. In addition to milk, oatmeal, cooked fruits, vegetables, eggs, and animal broths should make up the platter, from time to time, as strength of digestion, growth, and advancing age may seem to require. Pork, salt meats, stimulants, spices, condiments, pastry, and confections should be scrupulously avoided.

I have dwelt thus particularly and somewhat elaborately upon the hygienic *prophylaxis* of scrofulous development, knowing full well that our opportunity for success and usefulness in this department is vastly more promising than our therapeutic attempts at cure and relief after such development shall have taken place. In fact, the remedy is yet to be discovered having power to disperse or remove the scrofulous deposit already formed. The spontaneous plan of softening, suppurative and ulcerative inflammation, or the surgeon's knife may effect a removal, but no known medicine can be trusted for this end.

This spontaneous mode of ejecting the deposit is always attended and followed by sundry indurations, engorgements, ulcerations, and erosions, for which medicines, judiciously administered, may be very helpful. These are found almost exclusively in the mineral kingdom, such as Mercury, Iodine, Arsenic, Sulphur, Calcium, and their compounds.

The successful use of these remedies will necessarily involve an element of time,—protracted use. Hence they should not be given too low, or the dose repeated too often, lest toxical or medicinal effects follow.

For that form of the disease which presents itself in the lymphatic ganglions, and which is largely the most frequent form, the *Biniodide of mercury* is our best remedy. It is especially useful in the relief of those tardy engorgements and ulcerations which follow the discharge of the softened scrofulous matter. It may be given during the growth or swelling of the gland with the hope of dispersion, as we cannot always surely know whether the enlargement is attributable to the presence of scrofulous matter or to simple congestion and engorgement. For this latter condition

the remedy is excellent; for the former not worth much. In case we prescribe the red Iodide with partial or no satisfactory results, we may succeed better with the *Hepar sulphur*.

The **Cutaneous** forms of scrofulous manifestations will require *Arsenic*. Judiciously administered, as to attenuation and frequency of dose, the remedy will be found very satisfactory as to results, more especially in the eczematous forms of the trouble.

That form of the disease which for convenience we call **Mucus** (affecting mucous membranes) is best treated with *Iodide of sulphur*. This is especially true where this trouble is in the shape of mucous diarrhœa. When the trouble is in the mucous membranes of the respiratory organs, if the Iodide of sulphur fail, better results may be obtained from Arsenic and Phosphorus in alternation.

For a general state of torpor and vital depravity, with great obstinacy, as is manifested in the failure of well-selected remedies, matters may be placed in a more satisfactory shape by the administration of *Sulphur* for a week or ten days, after which a return to the indicated remedy may show better results.

In addition to the foregoing remedies, we mention such positive and excellent ones as Iris versicolor, Rumex crispus, Smilax sarsaparilla, Calx chlorinata, Kali chloricum, Graphites, each and all worthy of careful study and consideration in the management of obstinate and difficult cases.

INFANTILE SYPHILIS.

Infantile syphilis is usually congenital and constitutional, but in exceptional cases is acquired in the primary form by passing through the genitals of a syphilized mother, or subsequently at the hands of a syphilized nurse or attendant. As the acquired form has the same course of events and accidents in infancy as in the adult state, we propose to limit attention to the congenital

or hereditary form of the disease. It is proper to state at this point that infants sometimes acquire the constitutional form of the disease without the primary accident, by nursing a syphilized mother or "wet-nurse."

Few themes in the history of diseases have furnished opportunity for so much controversy as to modes of communication, order of events, and treatment, as syphilis. Theories, supposed to be well sustained by the facts of careful experience, have been overthrown by further experience; other theories, taking the place of exploded ones, have, in turn, fared no better than their predecessors. The whole subject, from its intricacies and difficulties in diagnosis and treatment, as well as the moral, social, and legal aspects of the matter, is one of the highest interest and importance to both physician and client.

Modes of Communication.—The disease may be communicated at the moment of conception by the syphilized condition of either parent. A syphilized mother is supposed to communicate the disease in a more violent form than the father, and that blight and a premature birth are more likely to occur where the fault is with the mother than in the case of the father's blame. Both parties being diseased at the time of conception, blight and abortion will be exceedingly probable, almost a certainty. Both parents may be pure and healthy at the time of conception, and yet the child be born syphilized from the mother's subsequent contamination at any time before the sixth month of pregnancy. After the sixth month the child in utero seems to be in less danger of hereditary constitutional contamination. The father alone being in fault at the time of conception may procreate a tainted offspring, which in turn may contaminate the mother without any primary experience with the disease on her part.

Parents recently syphilized, though apparently relieved, and free from any diseased appearance at the time of conception, may propagate a syphilized offspring. The precise date or limit of time beyond which such parents may consider themselves reasonably exempt from risk to any future offspring is very variable

and difficult to settle by the physician, though often urged to do so by parties contemplating marriage, or who, being already married, desire to postpone procreation until a period of safety on behalf of the future progeny. We think it safe to predicate that parties lately syphilized should not risk procreation under twelve months after the last disappearance of symptoms; or the result may be the birth of a tainted offspring. We do not state twelve months as the limit of absolute safety, for trouble may come after a much longer delay, but as an approximate rule to govern physicians in the settlement of a question of so much professional, personal, and domestic import.

Symptoms.—As a general rule, specific signs of the disease are absent at birth, and do not appear until between the fifteenth and thirtieth days after birth. Diday gives a table of 158 cases. Eighty-six of the cases presented diseased appearances within the first month, forty-five within the second month, fifteen within the third month, and seven within the fourth month; so that of his 158 cases 131 presented syphilitic symptoms before the end of the second month. As a rule, syphilitic children are born very badly developed, presenting at the time of birth a wrinkled, shrivelled, atrophied, imbecile look, which rapidly becomes aggravated until the child has a most hideous and repulsive appearance. When to these general appearances there comes to be added the specific symptoms of disease, the party presents a plight which no one would care to behold.

Tainted children do not always present the atrophied condition at the time of birth, but are sometimes born in pretty fair condition. In such cases one of the first signs of trouble is a gradual and unaccountable failure in the nutrient function, with evident loss of flesh.

One of the earliest local specific signs is pemphigus, which usually puts in an appearance within the first week after birth, and is a sign of most unpromising, unfavorable import. It presents itself in the form of large vesicles or blebs, first on the palmar surface of the hands and soles of the feet, and subsequently on

various portions of the skin. These bullæ or blebs are filled with a turbid fluid, and when ruptured, which readily takes place from the attenuated wall of the vesicle, leave an unbenign, indolent ulcer, without granulations, and no tendency to repair. Should the eruptive process be delayed to a later period, the appearances will be the peculiar coppery blotches, with or without papular elevation. The papular elevations have a desquamating surface, and a surrounding areola of a reddish or pinkish hue. One of the most painful, disagreeable symptoms is the chapped, fissured condition at the mucous outlets just at the point where the skin and mucous membranes meet. These rhagades or fissures are conspicuous at the corners of the mouth, about the nose, and anus. Sometimes they appear at the flexures of the joints, in the groins, and on the wrinkled surface of the buttock. When the parts that are the seat of these rhagades are set in motion, bleeding and severe pain are the result. Consequently, efforts to take food, or to stool, are attempted with the greatest reluctance on account of the pain induced by motion of the parts. These rhagades are very conspicuous, and are probably quite as characteristic of the disease as any other symptom.

A coryza of an obstinate and distressful character is both prominent and characteristic. The extensive tumefaction of the nasal mucous membrane gives great mechanical embarrassment to the function of respiration. A thin excoriating discharge flows freely from the nose over the parts beneath, producing ugly, painful abrasions; or the discharge being thick and mucopurulent, forms thick crusts within the nasal cavities, still further adding to the embarrassment of respiration, which comes to be performed with a sort of spastic, snorting manner. Despite the violence of the nasal symptoms, ulceration of the mucous membrane is not probable, and necrosis of the nasal bones and hard palate rare. The coryzal affection, if severe or protracted, will be likely to extend posteriorly through the nares into the faucial and laryngeal regions, causing difficult deglutition and a harsh, squeaky voice, which West likens to the sound of a child's toy trumpet.

Condylomata are likely to be abundant about the nose, angles of the mouth, genitals, and anal margin. Meigs and Pepper say these growths are likely to soften, fall off, and leave in their stead a sinuous form of ulceration. I have no experience confirmatory of theirs in this particular.

Tertiary Symptoms are less frequently observed among children than adults for several reasons. In the first place, they do not follow the secondary ones so closely as among adults, usually not appearing until about the seventh year, or not until nearing puberty, by which time the child may have become so invigorated as to escape them altogether. In the second place, the secondary symptoms are usually so fatal that very few syphilitic children live long enough to reach the "tertiary period."

Alopecia is usual, embracing not only the scalp, but the eyebrows and tarsi likewise. The skin, when not invaded by a more deepseated form of symptom, is usually covered by furfuraceous particles, which fall off in large quantities,—a sort of syphilitic psoriasis.

Prognosis.—Fortunately this is bad, as such infants usually die of atrophy and exhaustion within the first sixty days. If life be protracted somewhat longer, they usually fall into visceral trouble, as of the lungs, liver, or brain, and so get a furlough from affliction in this way. In some instances death seems the immediate result of a violent diarrhœa, which, when superadded to the previous tendency to decay and waste, makes short work of the little sufferer's frail, brittle thread of life. If the syphilitic offspring gets its peculiar legacy at the hands of the strumous parentage, the bad prognosis is all the more sure as well as desirable.

Treatment.—The two principal remedies in the infantile, as well as the adult state, are Mercurius and the Kali iodatum. The marked analogy between the syphilitic cachexia and the toxic effects of Mercury, are so obvious as to render the curative relation of the latter to the former a foregone conclusion to any disciple of our professional dogma, *similia similibus curantur*.

Experience gives complete and beautiful proof of theoretic truth in this matter, and we think the time fast approaching when the weight of prejudice, growing out of the abuse of a good remedy, will have so far vanished as to bring all intelligent minds to one conclusion on this subject. Whilst the *Corrosivus, dulcis* or *vivus*, may be best adapted to adults, the strong tendency to ganglionic involvement, with nutrient failure, in syphilitic infants points to Mercurius biniodidus as the remedy for our present purpose. It should be given in the 3d or 4th decimal trituration, in grain doses, every six hours, until some improvement is apparent, and at intervals of ten or twelve hours. It may be the only remedy called for; but in the event of failure or improvement coming to a halt, the Kali iodatus should take the place of the mercurial. Probably, in obstinate and difficult cases, it may be justifiable to give the two remedies in alternation, at intervals of ten or twelve hours. The Kali iodatus is best given in the 1st decimal solution. In the event of much vesicular or eczematous quality in the cutaneous appearances, Arsenicum may come to fill an important place, especially after the Iodides of mercury and potash. In the event of much intestinal trouble the Iodide of sulphur may fill an important place. For much exhaustion and debility the allopathic authorities attach much importance to the use of the syrup of Iodide of iron. I have no experience in its use for such a purpose.

After a subsidence of the more prominent symptoms under the foregoing treatment, a protracted course of *Sulphur* will be proper as a means of neutralizing any lurking *débris* of the poison, and to prevent relapses. For difficult and unusual appearances, it would be well to keep in mind Nitric acid, Aurum, Rumex crispus, Iris versicolor, Sarsaparilla.

Local Applications may contribute to the appearance and comfort of the patient, but as curative means are of little worth. To relieve the dry, wrinkled state of the skin, it may be thoroughly frictioned with any clean deodorized oil, daily, after a hasty warm bath. The rhagades at the corners of the mouth or elsewhere

may be made more comfortable by the frequent application of Cosmoline, with five grains of the Oxide of zinc to the ounce of the former. We protest against the orthodox but nasty Mercurial ointment under any circumstances. The condylomata may be touched once in two or three days with a watery solution of Chromic acid, twenty grains of the acid to two drachms of water. This application has the advantage of being effective in the dispersion of the unsightly growth, and is not at all painful.

This class of patients should have an abundance of nutritious food, suited to the age of the patient. The only limit in quantity should be the capacity of the digestive organs to manage and appropriate the supply. In the event of the mother's default in lacteal supply, we think it should be a point of honor and conscience with the medical man not to entrap a healthy woman into employment as a "wet-nurse" who might, unawares, get into much trouble,—Dr. West's opinion to the contrary notwithstanding. He admits the probability of local trouble to the breast from the application of the lips of a tainted child, and that the nurse's own child might in this way contract a sore mouth, but ignores the fact or risk of constitutional contamination. We think his opinion of very doubtful propriety in practice, to say nothing of its theoretic dubiety.

RACHITIS—RICKETS.

Rickets consists in an abnormal condition of the nutrient process, resulting in muscular atrophy and atony, and a softened or flexible state of the bones, with enlargement at the articular, cartilaginous, and epiphysial extremities.

Statistics would seem to show much greater frequency of the disease in Europe than in America. Of 128,656 children treated at the London Hospital for Sick Children during thirteen years (1854–1866), not less than 8419 or 6.5 per cent. had rachitic symptoms; and during certain years of this period the rate of frequency rose as high as 9 per cent.

Eminent German authorities give a rate of frequency as to occurrence of 30 per cent. of the sick children at the public institutions of that country. In the United States of America the disease is probably more frequent in the older cities and more crowded populations of the East and North than in the comparatively sparse population of the South and West. The disease is more prevalent in the large cities than in the villages and rural districts.

Mortality.—The small mortality as shown by statistics is evidently deceptive and incorrect. For instance, in the mortality returns for twelve years in the city of Philadelphia, only two deaths were reported from rachitic disease. In Great Britain the number of fatal cases reported, notwithstanding the large prevalence of the disease, is so small that the Registrar-General did not deem it necessary to devote a column to mortality from this affection. The source of deception, doubtless, receives explanation in the fact, that rachitic children are much subject to certain incidental visceral disorders, as of the lungs, brain, and liver, during the progress of which death may take place, and to which the death is attributed and so stated in the death report, while in reality these visceral troubles are dependent upon the rachitic dyscrasia, to which primary condition or disorder the death should be attributed. This failure to recognize the rachitic process as a true source of mortality, is just as unreasonable as to attribute death in a given case of malignant scarlet fever to tonsillitis, simply because tonsillitis happened to be a prominent symptom in the progress and conclusion of the case.

Age.—The abnormal condition known as rickets is peculiarly the affliction of tender infancy and early childhood. The condition of the child at birth in a few recorded cases shows that the disease had attacked the fœtus during intrauterine life. It may make its appearance during the first six months after birth; but the vulnerable period may be set down between the sixth and twenty-fourth months. The primary or incipient manifestation frequently sets up during the first six months, but the recumbent

attitude and exemption from much muscular activity during these early months prevents, in a large degree, those deformities so characteristic of the disease at a more advanced age. After the end of the second year the probabilities of occurrence rapidly diminish, so that after the completion of primary dentition the child may be considered fairly exempt from any risk of attack.

Etiology.—The question of heredity is an open one; but the weight of opinion and authority is against the theory that the disease ever becomes a matter of inheritance in the sense or meaning which we attach to hereditary transmission in syphilitic and strumous affections. Doubtless the poor health of the mother during utero-gestation may impart to her offspring a certain delicacy of constitution predisposing to this or the numerous other disorders of childhood, but not specially a predisposition to rickets. Parentage at a premature age, or in old age, or between near relatives, is supposed to predispose to rickets; but the tendency to such infirmity is probably not at all greater than to any other form of constitutional delicacy or physical frailty. I am not aware of any recorded statistics bearing directly on the subject; but I incline to the opinion that a syphilitic parentage furnishes stronger probability of constitutional trouble to the offspring than any other form of adverse parental condition. Whatever tends to induce a debilitated anæmic condition of the mother, either during utero-gestation or the period of lactation, may bring the child into a state of faulty nutrition either before or after birth, and so contribute to set up the rachitic state. In this connection we may mention, oft-repeated child-bearing at short intervals, or protracted lactation, resulting in much debility and exhaustion of the mother, as very probable sources of trouble to her children. Dr. Jenner states that it is not at all uncommon for the first three or four children, in a large family of children to the same mother, to be healthy and robust, whilst those born subsequently show signs of delicacy. My own observation fully confirms that of Jenner's, especially where the births follow each other in rapid succession. Very recently I felt it to be my professional duty to

admonish a husband and wife that, unless they managed to make the intervals between births in the family longer, helpless or imbecile offspring would be the result. In this family the first three children, though born in quick succession, were robust and strong; the fourth showed strong marks, within three months after birth, of muscular and osseous defects, and when it died at three years of age from malignant scarlet fever, was unable to walk, had but few and very defective teeth, large, loose, unsightly joints, and was mentally almost imbecile.

After all that may be said as to parental agency as a factor, either immediate or remote, in the induction of the rachitic abnormality, it must be admitted that adverse hygienic influences do much more than all other causes combined in producing the disease; such as premature weaning, protracted lactation, the substitution of improper food for the mother's milk, residence in dirty, damp, dark, ill-ventilated apartments.

Symptoms.—It must be confessed that the earlier symptoms in this disease are not always positively characteristic of what is about to follow. These are muscular relaxation, poor sleep, loss of flesh, articular relaxation, peevish, irritable temper, a dislike of touch or motion, rolling of the head from side to side until the hair is worn off the occiput, with a general condition of passivity, and a disposition to wail and cry, when shown attention or placed in a state of motion or change of position. The bowels in this preliminary stage may be relaxed, but are more likely to be constipated. The kidney action may be scant, with acrid, fetid urine, but is more likely to be excessive; the urine having a milky or turbid appearance. The skin is dry, wrinkled, and swarthy, with great excess of perspiration about the head. Now if this abnormal group of appearances be present where we have no good reason to suspect either a syphilitic or strumous taint, we may be pretty sure as to what the future has in store for the patient in the shape of the osseous disfigurement which is so characteristic of the rachitic state.

Stage of Deformity.—In this stage of the disease, the bones, seeming to have parted with the earthy or solid element, assume a soft, yielding, cartilaginous state, and may be readily bent in almost any direction, and to any extent, without fracture. Deformity shows itself chiefly in the cranial, spinal, thoracic, pelvic, and long bones of the extremities. In the cranium we find the bones thick and soft, the fontanelles unduly open, "craniotabes" or soft spots in the occipital bone, with flattening on the lateral surfaces, and a corresponding bulging or elongation of the antero-posterior diameter. The volume of the brain is positively excessive, and not relatively or apparently so, as compared with the size of the body, with a marked prominence in the frontal region. The site of the sutures is marked by a furrowed or grooved appearance, produced by a thickened margin of the bone immediately adjoining. This thickened state of the bone near the sutures may extend over a considerable surface of the bone, gradually shading off or thinning towards the fontanelles and "soft spots" or "craniotabes." Deformity of the thorax arises from atmospheric pressure, pressing in laterally the soft, yielding ribs, especially in the superior thoracic region; the ribs being kept somewhat in position below by the heart, liver, spleen, and stomach. In many of these cases the circumference at this point of the chest is excessive, from enlargement, to which the liver and spleen are liable during the rachitic state. The sternum is thrown forward, giving the "pigeon-breast" deformity. The cartilaginous extremities of the ribs become much enlarged, giving a nodulous appearance, which in Europe is known as the "rickety rasory."

Costal disfigurement receives still farther additions anteriorly as the ribs may happen to be forced inwardly by atmospheric pressure from without at one point, and outwardly at another by visceral resistance from within. Spinal curvature is usually an important element of deformity in these cases. The general appearance of the thorax is one of constriction above and bulging

below. The yielding clavicle contributes its mite to deformity by allowing the shoulders to fall forwards.

The long bones of the extremities, between the loss of balance in due muscular antagonism, and their uses in the support and motion of the body, become curved and much misshapen. In the lower extremities the curvature is outwardly lateral, in the upper, in the antero-posterior direction. The extremities of these bones become greatly enlarged and disfigured from cellular, cartilaginous, and osseous deposits, which, together with ligamentous relaxation, give the joint a most unnatural appearance in both shape and motion. From the relaxed and mobile condition of the joints, allowing motion in almost any direction, the possessor of such facility of motion is said to be "double-jointed." The enlargement is usually greatest at the wrist-joint.

Very few of this class of cases escape serious *pelvic deformity*. The sacrum is driven forward by the weight of the body, communicated through the spinal column; the lateral pelvic walls are driven inward and upward by pressure from the thigh-bones while supporting the body; and in this way the pubic symphysis and sacral promontory are brought so near each other as to encroach seriously on the upper pelvic strait. This deformity becomes matter of grave import in the case of females, as it may bring serious obstetric embarrassment in the event of pregnancy. Where the deformity is great the pelvic cavity may be so reduced as to leave insufficient room for ordinary functional performance of the contained viscera, and so give rise in adult life to a troublesome complication of uterine, cystic, and rectal symptoms, such as dysmenorrhœa, strangury, and constipation. Pelvic deformity is nearly always associated with marked spinal curvature.

The diminished capacity of the thorax above and the pelvis beneath contribute to force the viscera into the abdominal cavity unduly, giving much abdominal prominence, which in many instances is still further exaggerated by enlargement of the spleen and liver.

During the progress of the rachitic state the various viscera

suffer from the mechanical constraint as well as the state of cachexia, presenting a form of enlargement and decay nearly allied to the albuminoid form of degeneration. This form of decay is found in the liver, spleen, and lymphatic glands. The lungs suffer much embarrassment from condensation of tissue, emphysema, and collapse.

Under such a widespread state of mechanical deformity, involving necessarily so much physiological impairment, it would be reasonable to anticipate the occurrence of certain serious and violent forms of acute or chronic disorder, such as bronchopneumonia, asthma, chronic hydrocephalus, laryngismus stridulus, diarrhœa, convulsions. In fact, fatal cases of rickets usually reach conclusion in some one of these modes.

Pathology.—Rickets depends upon a constitutional dyscrasia, which, by a general impairment of the nutrient process, ultimately attacks the solidity and stability of the osseous system. Examinations upon the cadaver in connection with chemical analysis, go to show conclusively that the soft, flexible condition of the bones depends upon the absence of the calcareous salts. The absence of these solid constituents depends largely, of course, upon the failure of the usual healthy supply from the source of nutrition; but the almost entire absence of this element in many cases would seem to indicate an actual absorption and removal of that which had existed previous to the induction of the abnormal state. The mental, moral, and neurotic peculiarities which pervade the entire history of this disease would seem to indicate a radical, primary fault in what is commonly called the cerebro-spinal axis, and especially that subdivision of this apparatus which presides over the vegetative process. To such extent does this theory obtain, that we find specialists in the management of nervous diseases claiming this class of cases as part of their legitimate domain.

Pathological Anatomy.—The bones, under the knife, yield as so much soft cartilage. They may be bent in any direction, and to almost any extent, without fracture. The long ones may

be tied into a knot, and the broad ones manipulated as pieces of wet leather. At the junction of the bony structure with the cartilaginous extremity there is a large exaggeration of both normal and abnormal growth, giving prominent disfigurement of joints, and especially at the wrists. A similar deformity is found in the sutures of the cranium, and at the sternal extremities of the ribs. The lungs and heart show marked signs of deformity from mechanical constraint; whilst the liver and spleen present a state of decay nearly akin to the albuminoid degeneration.

Diagnosis.—In the preliminary symptoms there may be nothing very distinctive to indicate what is in store for the patient. In the main, an evident failure of the nutrient process in the case of a child under two years of age, with strongly-marked neurotic symptoms, should at least serve to put us on our guard. When the stage of deformity shall have put in appearance of course there need be no difficulty under this head.

Prognosis.—Between the probabilities of an ultimate termination in death, or a partial recovery with great personal deformity, the promise in the disease is anything but satisfactory. Then, too, the feeble powers of resistance to toxic or disease-producing causes constantly subjects the individual to risk of death from any and every form of disease peculiar to the tender infantile period. Should the rachitic disease happen to be associated with either the strumous or syphilitic taint, the future of the case will be all the more unpromising for such association.

Treatment.—This must be largely hygienic, and especially *dietetic*. West states that he has never known a child to become rickety who enjoyed the advantage of a good supply of breast-milk from a healthy mother, however adverse the surroundings otherwise might be. To the advantages of good diet we should, as far as possible, conjoin residence in a high dry atmosphere, on the mountain-tops, at the seaside, or near the lake shores. The child should have a daily tepid bath in salt-water, and afterwards be well frictioned with simple deodorized oil. It should have

large opportunities in the open air. The greatest care should be taken to keep it away from exposure to the eruptive fever poisons.

It would be both tedious and difficult to indicate the requisite therapeutic course. This must depend upon the peculiar phase of the case and its probable complications. For instance, bronchial and pulmonary manifestation will call for Phosphorus, Iodine, Arsenic, Hepar sulphur; gastric and intestinal trouble will require Carbo vegetabilis, Calcarea carbonica, Iodide of sulphur, Pulsatilla, Nux vomica; hepatic and splenic disorders will need Mercurius, Podophyllum, China, Arsenic; neurotic manifestation will be best treated with Nux vomica, Belladonna, Veratrum album, Colocynth, Zincum. A most important element of any course of treatment is *time*,—time as to interval between doses, and time as to *duration* of treatment. The physician will find it to his advantage as well as that of the patient, to make express stipulation as to persistent duration of treatment before he enters upon the management of a given case. He should never promise anything like tolerable relief or improvement in less than from one to two years, and only in the most gradual manner.

Mechanical Management, to correct or prevent deformity, is always a matter of much wish and anxiety to the parents and friends of the child. Undoubtedly there may come a time in the history and progress of this class of cases when mechanical constraint should be adopted, but a premature movement in this direction is not only useless, but positively hurtful and a source of great embarrassment. Mechanical constraint to an infant thoroughly broken down by extensive complication of disease of the nervous, glandular, and digestive systems, could hardly do less than prove the "last feather on the camel's back." The proper course to be pursued will be the restoration of the general health by the correction of either local or general abnormalities, under the adoption of both hygienic and therapeutic agencies, after which instrumental assistance may do much to restore the normal figure of the maimed parts. The physician may either attempt this himself or turn the case over to the surgeon or any

competent instrumental specialist, always reserving the right to himself to keep a general oversight of the case.

CUTANEOUS INFLAMMATION.

In the department of dermatology counsels have been profoundly darkened by the countless and groundless distinction and classic terminologies with which specialists have invested the subject. With the special abnormal manifestations on the body surface, open to accurate, exact investigation, by two of the most reliable senses, sight and touch, conclusions as to diagnosis and treatment ought to be reached with reasonable ease and certainty. But the fact is that the whole subject is a regular *terra incognita* to the great body of medical practitioners, reticence as to diagnosis and *expectancy* in treatment being the usual line of procedure, "lest a worse thing happen," either to the reputation of the physician or the health of the child. Professional incompetency and uncertainty are well indicated in the rich harvest which nostrum vendors gather in revenue from this class of cases. The absurdity of our literature in the matter of cutaneous inflammation was once admirably illustrated by an author who, feeling discontented with the multitudinous display of names and elaborate classifications on the subject, concluded to simplify matters by writing a book himself, which, when finished, was found to contain an account of about 300 diseases of the skin.

The distinguished Erasmus Wilson, after including all forms of skin inflammation under five primitive forms, viz., erythemoid, papular, vesicular, pustular, furuncular, thought it necessary by way of amplification to write a book of about 500 pages. It is true, his book contains an elaborate account of the eruptive fevers, syphilis, elephantiasis, and other matters, not all pertinent to the matter of simple skin inflammation. These are specific constitutional blood diseases, with certain cutaneous phenomena, the

cutaneous symptoms no more entitling them to rank as skin diseases than in the cases of typhoid fever or cerebro-spinal meningitis, in which there are often marked skin symptoms. But books on dermatology do not get elaboration, complication, and excessive size alone from inclusion of subjects not pertinent to skin disease, but much more from groundless distinction, or at least from distinctions of no practical utility whatever. For instance, specialists give us one form of disease involving the hair-follicle; two lines away from the diseased hair root we have another involving the sweat-gland; in the intermediate space, or hard by, another implicating the sebaceous glands; whilst all around, above, and beneath ample space has been found for locating a diseased condition of the cuticle, rete mucosum, cutis vera, and the subcutaneous cellular substance. Of course, it is eminently proper to recognize the anatomical components of the skin, as well as their relative or absolute implication in disease. But when we attempt to carry these distinctions so far as to locate from fifty to one hundred forms of disease on a bit of territory from one to two lines square, we make a great strain on the every-day activity of professional life, and we should not wonder that the great body of practitioners practically ignore the whole subject under a sense of mistrust and disgust. Let us hope that in the near future some one, with the requisite taste and experience, will undertake to give the profession a practical work on this most important subject, and by the avoidance of excessive nicety in distinction and classification, and the exclusion of matter foreign to the subject, accomplish the work within reasonable practical compass. Cutaneous inflammation is peculiarly an affliction of infancy and childhood between the sixth and thirty-sixth months of life. It may be either acute or chronic. As the acute form usually yields readily to treatment, or, failing to receive relief, passes into the chronic form, we propose to address attention to the chronic form of the trouble, which is usually obstinate in duration and difficult to treat. Adopting Erasmus Wilson's division of the subject into five primary forms, erythemoid, papular, vesicular, pustular, and

furuncular, we shall find the vesicular (eczematous) by far the most frequent form among children, and that, shading off from the vesicular or eczematous form, there will be found in almost any case of chronic eczema well-marked samples of the other four varieties. By a sort of arithmetical permutation these five forms so blend and interchange as to constitute or represent nearly all the forms of skin inflammation, eczema by its frequency in occurrence and the facility with which it embraces the other four, exerting a decidedly preponderating prominence in the permutating process. It is a queer fact that this tendency to combination is not at all probable if eczema be absent. The other four varieties may appear in succession or simultaneously on separate portions of the skin, with little or no tendency to combine or complicate; but eczema putting in appearance becomes the signal, as it were, all along the line for varied and numerous complications. The *erythemoid* (erythema) form of skin inflammation in many instances scarcely attains to the dignity and importance of a true phlogosis, but consists in the main in a shining, smooth, scarlet rash, from congestion, without discharge, tenderness, or elevation of surface. There may be slight exaltation of the calorific function, with a sense of heat or burning in the part, with more or less pruritus. If it appear without complication, it is rather a matter of personal discomfort and disfigurement than a serious or decided form of disease. It is much a matter of annoyance to gross, fat children, whom it attacks in the folds and creases of fat about the neck, armpits, buttock, groins, and genitals, during protracted hot weather. Frail, delicate children suffer in this way from unequal pressure of coarse, rough clothing, the buttock napkin, and the flow of acrid discharges over the surface. When erythema makes its appearance on the face or about the ears it is usually the forerunner of eczema. In violent, obstinate, or mismanaged cases, the cuticle may give way, and the surface become raw, and furnish an ichorous, troublesome discharge.

The **Papular** variety, known also as *lichen*, consists in discrete, dispersed papules or pimples. They are from two to four lines

in diameter at the base; the apex is at considerable elevation above the normal surface; they are without pain, tenderness, or discharge, and have a purplish or pinkish hue. They may appear in any portion of the skin, but are most probable beneath the clothing. When these papules attack a new-born child, which very frequently happens, they constitute what is popularly known as *hives*. They are much inclined to put in appearance during difficult dentition. They have the habit or quality of appearing, disappearing, and reappearing in successive crops, for several weeks in duration. Locally they are not a matter of special distress or discomfort to the patient, but usually give the mother anxiety from a certain vague fear that matters might grow from "bad to worse."

Eczema.—The violence, frequency, and obstinacy of this form of skin disease gives it great importance, to say nothing of its facility for complication with the four other varieties. The characteristic condition or appearance is that of vesicle, blister, or bleb. The vesicles vary in size from the dimensions of a millet-seed to that of a split pea. They are discrete at first, but by rapid increase in numbers come to fill up the interspaces so as to touch each other, and thus continuously cover a large surface on the skin. The vesicular wall is so attenuated and frail as to be easily broken, and when broken, pours out freely a serous, lymphy fluid, of an ichorous, excoriating quality, which, as it flows over the adjoining sound surface, extends the borders of inflammation. The raw surface left after the rupture and discharge of the vesicle throws out a lymphy exudation, which soon hardens under atmospheric action and presents the appearance of a scab or crust. In violent and protracted cases these scabs sometimes cover almost the entire body. On the scalp, the hair becomes matted and mixed with the scab so as to present a most loathsome and hideous appearance. The suddenness with which the vesicles spring up is noteworthy. A child, seemingly in good health, will sometimes furnish a fair crop in good maturity inside of twenty-four hours. They are, however, most usually pre-

ceded by the erythemoid rash. The favorite starting-places are the cheeks and behind the ears. The next most probable place of appearance is the chin, or the angles of the mouth. From the face the eruption may spread on the scalp, and downward over the person, until the surface may become one continuous hideous scab from head to foot. Even in these violent, extreme cases, it is remarkable that the child seems cheerful, and comparatively well; showing a choice for amusements, a relish for food, and ability to sleep. The greatest source of drawback and personal discomfort consists in an obstinate and troublesome *pruritus*, which usually attends the disease, especially in strumous subjects. From a supposed connection between the symptoms and the use of a milk diet, the disease has received the name of "milk crust"—*crusta lactea*. When eczema attacks the scalp it is very likely to complicate with the pustular form of inflammation, presenting what is known as *eczema impetiginodes*. The discharges from the vesicles and pustules as they dry and thicken, embrace the hair, and so form thick, heavy, painful scabs. The constant accumulation of discharge beneath these scabs after awhile pushes or raises them off from the scalp, leaving a moist, raw surface, denuded of both hair and cuticle. The scalp has much the appearance, after the scab sloughs off, as if it had been subjected to the action of boiling water; hence we have the popular term "scald-head." The gnawing, eroding quality of these symptoms has secured them the name *tinea;* hence we have *tinea lactea, tinea capitis*. The depth of the vesicle in the skin is usually not great, involving the cuticle, rete mucosum, and the outer or upper surface of the cutis vera. There is not much thickening or induration of the derma. There is a pinkish areola surrounding the base of the vesicle. As before stated, in the neighborhood of the eczematous inflammation we usually find samples of other forms and varieties in considerable numbers, such as erythema, papule, pustule, furuncle, rhagades, desquamation, alopecia, ulceration. The severe pruritus induces the patient to scratch and rub the parts violently and incessantly,

which in turn greatly adds to the unseemly medley, and intensifies the inflammatory action.

The opposite condition as to fatness and leanness furnish considerable difference as to probabilities of occurrence and duration; the preponderance of probabilities being largely against the fat, gross, hearty feeders. The trouble is more frequent in hot weather, but may prevail in midwinter. We think the supposed relation between dentition and eczema has been greatly overrated, as the disease attacks children about equally before teething, while teething, and after teething.

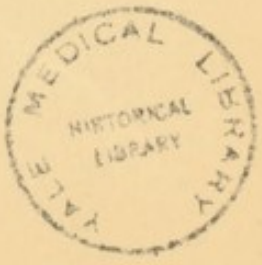
Digestive disorders, and especially such as depend upon dietetic excess, operate largely as the **Cause**; indeed, we incline to the opinion that malnutrition from excessive alimentation, with or without the co-operation of protracted hot weather, serves as the cause in nine-tenths of the cases. The disease is likely to be much intensified in duration and violence by the presence of the strumous predisposition, or the syphilitic taint.

Pustule—Furuncle.—The difference between a pustule and a boil (furuncle) is one of degree rather than character. The pustule is little else than a small boil, the boil little else than a large pustule. Each involves more or less the entire depth of the derma; each contains a purulent product of inflammation; each is characterized by heat, pain, swelling, discoloration, tenderness, and induration. They are usually dispersed, discrete; but when present in large numbers, may touch each other at some point in the margin. The pustule rarely exceeds the depth of the derma in its progress, whilst the furuncle (boil) may go beneath the derma and include the subjacent cellular substance. The furuncular form of inflammation has this additional peculiarity,—the surrounding induration and infiltration strangulate the circulation, going towards the centre of the part embraced, resulting in the gangrene or death of the central tissue, which becomes separated from surrounding connection, and presents itself when the abscess opens as a *core*. This *core* is sometimes only partly separated, or is too large to escape through the opening, and con-

sequently remains for a time before removal can be accomplished.

Both extremes as to plethora and anæmia, fatness and leanness are liable to these pustular and furuncular forms of inflammation. The excessive sudoriparous activity produced by protracted hot weather is a prolific source of this form of skin trouble, and especially the furuncular form. Exhausting forms of disease, such as typhoid fever, protracted diarrhœa, difficult dentition, also excessive or insufficient diet. These boils appear, progress, and mature, open spontaneously, and so disappear, to be followed by others in succession, for weeks and even months, if not prevented by suitable treatment. The site of inflammation is usually left in a state of disfigurement from the cicatrix, and darkish or purplish discoloration; but these each, at this tender age, usually disappear after a few months, and so leave the part in a normal condition, both as to color and smoothness of surface. These pustular and furuncular inflammations are not a source of distress from pruritus, as in eczema, but do bring very serious distress from pain and tenderness. It is rare to find an infant or child in greater distress from any form of disease than from the presence of ten to twenty boils scattered over the body. Motion is unbearable, whilst the recumbent or sitting attitude may not be much better, from pressure on some inflamed surface. When this form of skin trouble follows exhausting forms of disease, it greatly hinders convalescence, and by preventing sleep and inducing a sort of pyæmic condition, may bring the patient into a state of peril. I think one of the most miserable patients I have ever seen was a little boy who had a crop of from twenty to forty phlegmons while convalescing from typhoid fever.

A very troublesome form of pustular inflammation of the scalp is sometimes induced by the presence of *lice*. I have several times been consulted in behalf of children suffering in this way, where the difficulty was quickly relieved by the application of a mild mercurial, which, by killing the parasites, removed the whole difficulty. The incessant gnawing and biting of the insects in-



duces a state of pruritus, the scratching to relieve which sets up the inflammation.

Herpes—Tetter—Ringworm.—Herpes and tetter are two names for the same abnormal condition. Ringworm is almost identical with tetter. We have never been able to perceive any advantage or reason in an attempt at distinction, the one being tetter on a small scale, and the other tetter on a somewhat wider space. What is usually known as ringworm is confined to a small space, has a well-defined margin, and is in most instances exactly circular. In other cases the appearance shades off into less distinct margins, and becomes erratic or serpentine in form. What is usually known as tetter embraces a much larger area and has less definite limits or margins.

Tetter consists of innumerable small papular elevations spread out over an erythemoid base. It is one of the most obstinate forms of skin inflammation. Its favorite locations are the hands, face, and scalp. Its occurrence is more probable in the wintertime than in the hot, perspirable weather of the summer. Infants and very young children are less liable to attack than those from the age of five to twelve years. The skin at the points of attack has a dry, contracted, scurfy appearance, much as if it had been singed by the flame from a candle or a gas jet. The sensation in the part is one of dryness, tension, and stiffness, rather than pain. When it attacks the hands, the parts, sooner or later, in addition to the above appearances, become the seat of obstinate, painful chaps or rhagades, especially in the commissures between the fingers and the flexures on the palmar surface. In obstinate, protracted cases, the nails suffer from thickening and great disfigurement, or by a gradual exfoliation, are entirely and permanently destroyed. On the face there is a troublesome cuticular exfoliation, with tendency to vesicate or ulcerate at the margins where the cutaneous and mucous surfaces unite. On the scalp the prominent appearance is cuticular exfoliation, with ultimate loss of hair. The cuticular desquamation constitutes what is popularly known as *dandruff*, whilst the loss of hair has the

more classic name *alopecia*. Herpetic appearances, in many cases, subside during hot, perspiring weather, to return on the appearance of winter; and may so disappear and return for the entire lifetime. There is an impression that the disease is both contagious and inoculable, but we doubt whether there is any system of well-ascertained facts and observations going to sustain any such theory.

Cause.—In a very large proportion of the cases of skin inflammation the symptoms depend upon faulty nutrition, induced by dietetic defects, such as excess in quantity, or unsuitable quality. Articles of diet of the most suitable quality may make trouble by excess in quantity, whilst others make trouble by being unsuited to the child's age, such as animal food, butter, pastry, nuts, and saccharine articles. The popular notion that "milk is feverish" and ever serves as a cause, is only true when used to excess. The theory that dentition ever gives rise to skin eruptions, we think only true to the extent that difficult dentition is sometimes associated with digestive disorders. Great calorific extremes tend to induce cutaneous symptoms; the vesicular, pustular, and furuncular forms being prevalent in protracted hot weather, whilst erythemoid, papular, herpetic, and desquamative varieties will be more probable in the autumn and winter following a long hot summer. The extremes of excessive bathing on the one hand, or the filthy, untidy state of the skin from neglect in the matter of bathing, may each, in their own peculiar way, induce an abnormal state of the skin. The strumous and syphilitic cachexias give a strong predisposition to obstinate, inveterate skin symptoms. The most obstinate and violent forms of eczema will be found among strumous children.

Diagnosis.—As this branch of the subject has already received much incidental attention in the effort to draw the line of distinction between one variety and another of skin disease, and while showing the relations between skin symptoms and other forms of disease, it will scarcely be profitable or agreeable to occupy further space or time under this head.

Prognosis.—Infants and children rarely or never die of skin disease; but extreme obstinacy, great extent of surface involved, filthy, loathsome appearance, abominable fetor, heavy, hideous-looking scabs, all combine to render both patient and attendants thoroughly miserable and uncomfortable.

Treatment.—This must be both *hygienic* and *therapeutic;* the latter being largely a matter of dietary regulation. Some years ago a case of inveterate chronic eczema was sent to me for treatment after a whole year's unsatisfactory experience at the hands of an allopathic physician, who had good professional character, with matured experience. After a few weeks' homœopathic treatment the case had made such rapid, satisfactory progress as to elicit the inquiry from the former physician as to what treatment I had pursued. When I had enumerated the remedies he promptly told me he had pursued much the same course in the selection of remedies, except, of course, as to attenuation. I inquired: "Did you pay any attention to matters dietary?" "None whatever," was the reply. "Well, doctor," said I, "one of the first things I detected in the history of the case was a violent habit of gormandizing. This habit I corrected as quickly as possible; and hence the explanation of my success and your failure."

Now this case is but a sample of a very large proportion of the obstinate, troublesome cases of skin symptoms which come up in professional experience. I incline to the opinion that nine-tenths of all cases of skin inflammation, and eczema especially, depend for cause upon excessive quantity or excessive richness and heartiness in diet. My recollection is, that the child above referred to took nothing but milk and rice; articles entirely suitable to its age; but the quantity was simply enormous, and the habits of ingestion almost continuous and incessant. In a large class of cases we shall find it important to restrain the patient in the use of articles too hearty for its age; as meat, butter, gravy, pastry. In a much smaller class of cases we shall find our little patients in an enfeebled condition from a diet wanting in strength

and richness. In still other cases we may find a diet in use ordinarily suited to the child as to time of life, but wholly unsuitable in a given case, from some idiosyncratic peculiarity. Now, no comfortable or creditable success will ever be attained in the *therapeutics* of dermatology without ceaseless vigilance in the matter of diet.

Bathing.—The sound portions of skin should have a daily tepid bath, for neatness, comfort, and health; but the time-honored orthodox "castile soap and water" application to the inflamed surface is a huge mistake. It does little or nothing to improve the appearance of the part, and by removing the secretions which serve as a coating to protect the inflamed surface from atmospheric action, leaves it dry, denuded, and uncomfortable; and so positively hinders either spontaneous or therapeutic attempts at repair.

Therapeutics.—The list of remedies which provings and clinical experience have shown to be valuable and effective is not a long one. If we glance over the prescriptions found in Wilson's work on *Diseases of the Skin*, we shall probably find that nine-tenths of them contain Sulphur, Mercury, Arsenic, or Iodine, or some form of their chemical compounds. To this list homœopathy has made such valuable additions as Graphites, Hepar sulphur, Apis mellifica, Rhus toxicodendron, Tartar emetic, Copaiva, Kali iodatum, Calcarea carbonica, Baryta, Croton tiglium, Rumex crispus, Iris versicolor, Belladonna. It will be noticed that I do not include *Psorinum*, from which, and all such therapeutic *nastiness*, may the good Lord deliver the profession, and that right speedily.

We do not propose to go into a minute and detailed account of each and all the indications for the use of the remedies named; but shall only take space and time to mention the more prominent indications for the use of the leading ones. Naming them somewhat in the order of their importance, we come to speak first of:

Arsenicum.—No other remedy has so large a therapeutic

range in dermal pathology. In a list of eleven "selected formulæ" at the conclusion of Wilson's work, every one contains Arsenic in some form. Of course the crude quantities and polypharmacy do much to hinder the true action of the remedy; but the tenacity with which he adhered to its use indicates clearly that it held the post of therapeutic honor in the mind of this distinguished practitioner and author. In clinical experience, very few remedies have given me such uniformity in satisfactory results as Arsenic in the treatment of skin disease. I do not mean to convey the impression that it is equally suitable for all the forms or varieties of dermal disease. Nice, exact distinctions in symptomatology and therapeutics constitute the crowning glory of homœopathy as contrasted with the clumsy routinism of orthodox medicine. Doubtless the distinguished Wilson's prescriptions in many instances were not at all improved by the presence of the Arsenic.

The two leading indications for the use of the remedy are *vesication* and *moisture;* hence we get the hint for its valuable use in *eczema*, where, in chronic forms, we have both conditions. Should the vesication and moisture of surface be extensive and protracted, ulceration may result, and for which Arsenic will be the remedy. In many instances the moist, pustulating, vesicating surface is concealed beneath thick, heavy scabs, especially on the scalp, and for which Arsenic is the remedy. In *herpes*, with chaps or rhagades, and moisture, the remedy will do good service. A sense of great heat and burning in the part is an arsenical indication.

Mercurius.—This remedy will be indicated by the erythemoid, papular, herpetic, and desquamative forms of trouble, especially when complicated with bilious or mucous diarrhœa. Enlargement of the lymphatic glands will also indicate the mercurials.

Calcarea.—Papular eruption; liquid, lienteric diarrhœa; difficult dentition; gastric disorder.

Belladonna.—Erythema; furunculi; for fat subjects in hot weather.

Kali Iodicum.—Papular eruption, or other eruptions with strumous or syphilitic taint.

Iris Versicolor.—Strumous eczema, with much pruritus.

Hepar Sulphur.—Complication of eruptive varieties, with lymphatic enlargements.

Copaiba.—Obstinate papular eruption, with urticarious manner, and especially pruritus.

Baryta.—Large heavy scabs on the scalp from joint vesicular and pustular inflammation.

Tartar Emetic.—Much the same indication as for Baryta.

Croton Tiglium.—Much heat and tingling in the part from vesicular and pustular eruption.

Rhus Toxicodendron.—Acute eczema, with much pruritus.

Apis Mellifica.—Urticaria, with troublesome pruritus.

Sulphur.—Obstinate complicated cases where the indicated remedy fails. Much pruritus; ulceration, with tendency to corrode and spread; mercurial abuse; dry, desquamative inflammation of the skin, with constipation of the bowels. For obstinate chronic *furunculus*, I know of no prescription so satisfactory as Sulphur and Belladonna in alternation.

Local Applications.—A very groundless and unwise prejudice exists in the minds of physicians, and especially homœopathic practitioners on this subject. Undoubtedly the indiscriminate use of drying repellent applications over large surfaces would be unwise and might result in peril to the patient so treated. But that the moderate prudent use of local applications, in connection with suitable internal treatment, with a view to palliation, increased comfort, and the furtherance of cure, is unsafe or open to reasonable objection we do not believe. Take the following case as a fair sample of much experience I have had in this connection. A child, about three years of age, of scrofulous parentage, was presented for treatment, that had been under treatment, by a prominent homœopathic physician, for several weeks, for a violent and very extensive eczema. All local treatment had been positively prohibited as unnecessary and unsafe. The eruption was

spreading rapidly. The mother had been told that it might continue to spread until the entire skin surface had been invaded, and that one or two years might be required to effect a cure. The mother very plainly stated her disgust at any such prospective programme and promise. I prescribed the internal use of Arsenicum 2^x, one grain, three times per day, and the local application of an ointment composed of one ounce of Vaselin to ten grains of the Oxide of zinc, to be applied three times daily, with the result of prompt immediate improvement and entire relief in about two months.

There are two leading objects to be accomplished by the local treatment: 1st, a protection to open sensitive surfaces; 2d, the prevention and removal of large thick scabs. A raw open surface under atmospheric exposure may become the seat of such pain as to prevent sleep or repose, and thus materially retard the cure. Large crops of thick heavy scabs act locally as irritants to the skin, and by accumulating fetid, lymphy, and purulent secretions beneath, to be absorbed and carried into the general circulation, induce a certain *pyæmic* condition subversive of any internal treatment, however well directed. For the accomplishment of the two aims above indicated we most heartily recommend the external application of the Vaselin and Oxide of zinc in combination. The Vaselin alone in many cases will do perfectly well; but the two in combination do so well, that we do not see any good reason for their divorcement in any case. We think the *petroleal* quality of the Vaselin has a curative as well as a palliative power. It has also the very important advantages of tidiness and freedom from the disgusting rancidity of the old lard and zinc ointment of the shops.

℞.—Vaselin, ... ℥j.
Oxide zinc, ... grs. x.
Fiat ungt. Sig.: Anoint eruption, three times per day.

In the erythemoid, squamous, and dry forms of eruption the following lotion will be found serviceable:

℞.—Mercurius corrosivus, ... grs. ij.
Aqua, ... ℥j.
Glycerin, ... ℥j.
Fiat lotio. Sig.: Moisten parts, three or four times per day.

In all cases where the scalp is the seat of eruption the hair should be cut close to the surface and kept short. Neglect in this matter will result in matting of the hair with the discharges and the formation of large troublesome scabs.

The application of the "tar cap" for eczema of the scalp is in high favor with many practitioners. But we confess to a great dislike of such a disagreeable and unsightly application, though probably a good one so far as the question of cure may be involved. In some cases where the scabs are large, thick, and difficult of removal, a succession of warm soft poultices may be made to perform an important service.

For the severe and troublesome *pruritus*, which attends many cases of skin disease, and especially eczema, the following lotion will be found very serviceable.

℞.—Chloral hydrate, ... grs. x.
Aqua, ... ℥j.
Glycerin, ... ℥j.
Fiat lotio. Sig.: Moisten parts, three or four times per day.

SCABIES—ITCH.

This is a combination of papular, vesicular, and pustular inflammation of the skin, caused by the burrowing of a minute animalcule beneath the cuticle, known among naturalists as *Acarus Scabiei*. The plebeian haunts and vulgar associations of this individual have brought it into very odious repute among respectable and pretentious people, though it occasionally gets a hearty taste of aristocratic blood, and can boast of a very long line of historic and lineal descent for a period of nearly twenty-five hundred years. The habitat and peculiarities of this ani-

malcule were known and described by the Greek and Arabian physicians and naturalists more than three hundred years before the Christian era. A minute account of the animal, with an extended literary history, may be found in Erasmus Wilson's work on *Diseases of the Skin*. In an examination of ten specimens Wilson found the size to vary between the $\frac{1}{147}$ and the $\frac{1}{77}$ of an inch in length, and the $\frac{1}{303}$ and $\frac{1}{94}$ of an inch in breadth. A good, unaided eye in a strong light may readily perceive it. It has a white, shining globular form somewhat resembling a small bladder or vesicle. It has a head like a tortoise; has eight legs, four anteriorly and four posteriorly, all situated laterally. With the help of a little expertness and experience it is readily removed from its hiding-place beneath the cuticle, on the point of a needle, and when placed on a glass slide is quite frisky, and moves about in lively style for a period of ten or twelve hours before it dies. The sexual peculiarities of the animal have not been well established by investigation, but judging by the rapidity and extent of its ravages upon the skin from small beginnings it would seem to be well provided for in the matter of procreation and multiplication. That the disease is communicated from those in affliction to those in a state of health would seem to be beyond question. Contact of surface with surface is an essential condition of communication. The communication of the disease through the medium of books, napkins, clothing, bath water, is but a trivial modification of the rule of surface to surface as the mode of propagation. We are not aware that the precise duration of life allotted the itch-animalcule has been determined, but of one thing the patient may feel well assured, and that is that ample provision will be made by paterfamilias in the way of succession before "giving up the ghost." Judging from the tenacity with which the animal holds on to his place of abode it would seem probable that the disease is conveyed from one party to another through the medium of *ova* rather than by the transference of the living animal from place to place.

As before stated the itch-animalcule shows a decided preference

for dirty, vulgar associations, and especially for such associations under circumstances of very intimate miscellaneous relations between large numbers of persons, as we sometimes find among soldiers, sailors, in foundling homes, public schools, and in the densely packed hovels of the humble and lowly. The soft, vascular tender skin of infancy and childhood, with habits of intimacy and miscellany among children, furnishes peculiar facilities for the prevalence and spread of the disease. Hence while we witness occasional adult cases, much the largest proportion of cases will be found among children. The disease has no quality of self-limitation, nor does a first attack furnish any security against an indefinite number of recurrences.

Symptoms.—These usually first appear in the form of reddish, papular, discrete elevations, slightly vesicated, between the fingers and around the wrists. Simultaneously with the very first appearance of eruption the parts become the seat of a most intolerable *pruritus*, giving the term *itch* to the symptoms. The incessant scratching to relieve the pruritus greatly aggravates the inflammation and very soon results in more or less *pustulation*. The symptoms gradually spread to various portions of the skin, but more particularly to the thin skin about the flexures of the joints. Among boys the animal seems to revel and flourish with especial delight on the skin of the penis and scrotum, where from the action of the animalcule, and the frictions to palliate the itching, the parts sometimes become enormously swollen and present both pustulation and ulceration. Ordinarily there is little or no constitutional disorder or distress, the symptoms being more a matter of personal disfigurement and discomfort than any functional or vital derangement of the health economy. In very nervous and delicate children the troublesome itching by preventing sleep may come to be a matter of general disturbance.

The weight of authority, both pathologically and therapeutically, is in favor of a purely local nature of the disease. This view is probably true in recent cases, cases of short duration; but we think in protracted cases there comes to exist a certain blood

taint, other than the local manifestation ; that the animalcule, when present in large numbers and for a long while, furnishes a taint or poison to the blood, which greatly intensifies both the extent and obstinacy of the local symptoms. We think this view of matters well illustrated and enforced in the fact that while recent cases are easily and readily relieved by local treatment, obstinate and protracted ones require both local and general treatment in order to accomplish complete relief. To what extent this blood taint may in turn produce new and other inflammations of the skin than that induced primarily by the local action and presence of the itch-animalcule; and to what extent this taint may serve as the basis or cause of new and other forms of disease in various other parts and organs of the body, as inculcated by Hahnemann, are themes which have furnished grounds for much theoretic speculation and acrimonious controversy. Hahnemann seems to have ignored the animalcule altogether, either as a factor or result in the disease, and to have attributed the primary scabious malady, and its supposed numerous congeners, to a peculiar *miasm* which he styled *psora*. Whilst the extent to which Hahnemann elaborated and applied his theory may not be warranted by the facts of past experience, or sustained by future investigation, yet it contains a certain element of plausibility which the industry of future investigation will doubtless place in its proper light. Hahnemann's name will surely go down to untold generations with a relative immortality of fame, based upon his wonderfully sublime service to the profession and humanity, in his teachings as to the rules governing the selection of the single similar remedy in the minimum dose, in the treatment of disease. The combined medical discoveries of all the great mental luminaries of any one century since the dawn of civilization bear no sort of equality to what he has taught on these three points: physiological provings, attenuation, and the single remedy. And whilst we would devoutly hallow his name with the endearing term of blessed memory, we think his toyings, vagaries, and dogmatism on the subject of *psora*, furnish ample illustration of the

truth that we should call "no man master," except in a qualified sense; and that absolute, unqualified hero homage and worship can only be rendered at the expense of one's professional manhood and scientific independence. That he had faults and made mistakes in the midst of his iridescent splendors is no matter of humiliation or regret, but rather a source of comfort and consolation, as it brings him into an accord and *rapport* with ordinary mortals. "No faults, no mistakes." The idea has just a little too much of the sentimental gush which attaches to the tradition in regard to "the father of his country," "the little hatchet" and "the cherry-tree." And yet there is a certain coterie of self-constituted judges, whose chief business it is to have in charge the authority and memory of "the master," and to act as "conscience keepers" for their neighbors, who will, doubtless, hurl at my devoted head their entire ample stock of ugly epithets, and forthwith consign me to a professional perdition, for this little by-play of personal and professional independence. It is greatly to be regretted that so much zeal and industry do not seek opportunity in the furtherance of professional knowledge, rather than in things which divide and drive apart those who might otherwise be in accord and amity.

But let us return from this "upper air and solar walk" digression to the more sober duties of the hour and the matter immediately in hand.

The Treatment of Itch.—If the theory as to causation be true, the clear indication in treatment will be to exterminate the offending parasite. Various modes for the accomplishment of this end have been proposed from time to time. That which probably has the largest following is the external application of Sulphur, usually in the form of ointment, occasionally by fumigations or the rubbing in of the dry powder. Hebra and Erasmus Wilson, two of the very highest modern authorities in dermatology, advocate the external use of the Sulphur ointment. The mode prescribed is to smear the entire person with the ointment, and then keep the patient enveloped in flannels, in moderately

warm apartments, for sixty to eighty hours, by which time it is expected the parasite with its ova will be killed, and in readiness to be removed by an elaborate soapsuds bath. Doubtless in recent cases this peremptory process of local management may prove entirely successful. In the event of any remnant of symptoms after the local process of treatment, Wilson advises the internal use of the Sulphur to follow the external application. In hospital practice the Sulphur ointment mode of treatment might be made available, but in private practice very serious obstacles present themselves. In the first place, very few patients would consent to the strait-laced process of ointments and flannels in bed for the required time. In the second place, the disgusting fetor of the Sulphur is to many persons intolerable. These considerations induced me a long while since to substitute a mild Mercurial ointment for the Sulphur ointment as an exterminator of the itch-animalcule. Every physician of experience knows what a deadly poison Mercury is to very many of the insect tribe. We all know with what promptness it kills the head and body lice which sometimes attack the human subject. The mode of management which I prescribe is to make a slight, gentle dressing once per day—usually at bedtime—to the points of eruption. The ointment is readily made by incorporating ten grains of the red Oxide of mercury with an ounce of lard or vaselin. A hot soapsuds bath should immediately precede the application of the ointment. The bath should extend to the hair and scalp. There should be frequent changes of raiment. If the bath or change of raiment be omitted the individual is constantly liable to reinfect himself from his own person or clothing. The bed should have two or three changes per week for the same reason. In recent cases this course of management usually effects a cure in about one week. In obstinate protracted cases, where there is a probability of blood taint by the animalcule, Sulphur should be administered internally and continued for a week or two after apparent relief. Of course, the Mercury and the Sulphur are supposed to stand in therapeutic antagonism to each other. To

which I have for reply, I have found the course eminently satisfactory, both in the matter of cure and any subsequent experience or result. In a family of children complete relief for all parties is sometimes retarded from the want of co-operation and simultaneous relief of all the cases at once. In a family of six children, five may obtain complete relief; whilst the sixth case, from neglect or inattention being unrelieved, reinfects the five others, and so the whole process must be gone over again; *or* the entire family may get relief, and all get reinfection from neglect in regard to either the bed or body linen. In houses of refuge, boarding-schools, and foundling establishments it may be indispensable to isolate the sick from those in a state of health, in order to arrest the spread of disease and procure complete relief to those in affliction.

Various other remedies than those mentioned have a reputation in the cure of the scabious disease, such as Phytolacca, Staphisagria, White Hellebore, Sweet-scented Rush, Elecampane, and Onions, made into an ointment and used externally. But as none of them have superior power in the cure over Mercury and Sulphur, and most of them are acrid and irritating to the skin, they deserve only the second or inferior place in the treatment. An infusion or ointment of tobacco has been found effective, but is open to serious objection on account of the deathly nausea and collapse which an indiscreet use of it may produce.

In strumous subjects, should the primary scabious eruption result in other, secondary, papular and pustular eruptions, with lymphatic enlargements, the Hepar sulphur, Iodide of arsenic, or Biniod. mer. may be necessary. A tendency to eczema, with or without ulceration, may require the internal use of arsenic, with a mild Oxide of zinc ointment externally. The *debris* of scabious symptoms among children with a syphilitic parentage, should be treated with Kali iodicum, Biniod. mer., Rumex crispus, or Sarsaparilla, according to special indications.

INTESTINAL WORMS.

FIVE varieties of worms infest the intestinal canal of the human subject: the two tapeworms, the long round-worm, the long threadworm, and the short threadworm. The tapeworms are rarely found in the digestive tract of infants and very young children. The long threadworm is not of frequent occurrence among either adults or children. Children are much more liable to intestinal parasites than adults. Fifty and even thirty years ago almost every sick child was supposed to have worms, and got a treatment in harmony with such pathological view. If the physician's "Vermifuge," followed by "Calomel and Jalap," did not bring away the worms bodily, it was because they had been "ground up" by the medicine, and were supposed to be represented by the profuse mucous flakes which the drastic purgative had eroded from the mucous membranes of the stomach and bowels. Not only was the fact of worm presence greatly exaggerated, but the consequence to health was equally in excess of the real facts of the case. When present in large numbers they may undoubtedly prove a source of inconvenience, pain, and sickness. But it is now well established that they may be present in considerable numbers without inconvenience or much impairment of health, either local or general.

As a counterpart to the old idea of attributing every child's sickness to the presence of worms, recent writers have denied their abnormality altogether, except when present in great numbers, and then merely as a matter of mechanical inconvenience. As in all matters of pursuit or investigation the truth on this subject will be found between the extremes. Children may doubtless have worms in considerable numbers with little or no apparent impairment of health. Yet we do not think a perfectly healthy vigorous state of digestion will ever permit their appearance. The worm as found in the intestinal tract is either a sample of equivocal generation in its place of lodgement, or the outgrowth of an embryo or ovum which passes in along with the

food. Adopting the latter as the probable view of the matter, the inference is that when the digestive power is vigorous and strong the embryo or ovum is destroyed by the digestive process; when feeble the ovum escapes destruction, effects a lodgement, and in times furnishes a sample of its kind, which in turn furnishes other ova, and so continues to multiply and replenish. The explanation of the mistake as to the exaggerated part which worms were formerly supposed to perform as a factor in disease, is found in the fact that that state of impaired feeble digestion which favors the worm presence has precisely the same symptoms, whether worms be present or absent.

I incline to the opinion that the worm presence among children has been gradually less and less frequent here in the Southern and Western States for the past thirty years. Undoubtedly, I have seen them passed much less frequently within the last fifteen years than previously. Possibly, the more general use of the water-closet connected with the sewer or privy-vault, under our changed mode of residence appointments, gives fewer opportunities to inspect the stools where the worms are to be found when passed; and in this way there might be an apparent difference as to the frequency of the worm presence. But after due allowance for this difference of opportunity for inspecting the stools and seeing the worms, I am satisfied that they are growing gradually less prevalent as an abnormal condition of the intestinal canal. Within my earlier personal and professional recollection it was not at all uncommon to have the long round-worm "crawl" into the throat and mouth of a child, and so make its exit, or, taking the opposite direction, make its escape by the anus; and this too without any effort at stooling or vomiting at the time of the vermicular escape. I do not think I have witnessed an occurrence of the kind in the last fifteen years. Then, too, I am quite sure the peculiar pruritus and titillation produced by the short threadworm in the anus and rectum is less frequent than formerly. I do not now remember to have seen an intestinal worm within the last five years, though my opportunity for ob-

servation, and especially among children, has been one of very considerable extent. And thus while worms have become professionally less fashionable they seem to have become literally less frequent as an actual presence. I incline also to the opinion that worm prevalence is greater in the rural than in city districts. It is undoubtedly greater among the poor and lowly than in the aristocratic walks and upper circles of society. Hence I have been able facetiously to refute a mother's worm theory of her child's illness many a time, by telling her that only poor and vulgar children ever have worms. The difference of prevalence as between the two social extremes or conditions is probably the result entirely of difference in dietetic habits. In the rural districts remote from fresh meat markets the population eat largely of "cured" stale meats which are likely to contain the vermicular ovum. In the cities the poor and lowly eat largely of cheap stale meat and stale defective fruits and vegetables, also liable to have and convey the ovum into the digestive canal. Then, too, persons given to these dietetic defects are liable to have a less vigorous digestion, and per consequence a more favorable opportunity is furnished for a lodgement of the worm ovum and its hatching into worm maturity.

Of the five varieties of intestinal worms, three are more especially peculiar to children: the long threadworm, the short threadworm, and the long round-worm. The long threadworm (*Tricocephalus dispar*) is the least frequent of the three varieties; is about one and a half inches in length; is very slender, scarcely so thick as a horse-hair at its anterior extremity, but somewhat larger posteriorly. It is chiefly found in the cœcum and colon, usually not in large numbers, sometimes solitary. The symptoms are much the same as those produced by the long round-worm.

The short threadworm (*Ascaris—Oxyuris Vermicularis*) is about two lines in length; its body is elastic, has a whitish color, and much the appearance of cotton fibre or thread, from which circumstance it gets one of its names. Its most usual place of abode is in the rectum and anus, where, from its presence in great

numbers, and its frisky, mobile habits, it produces an intolerable sense of titillation and pruritus.

The *Ascaris Lumbricoides*, commonly called the long round-worm, has much the appearance of the common earth-worm, having a cylindrical body, which is attenuated towards each extremity, but more so at the anterior one; has an average length of about nine inches, and a circumference of four to six lines. When recently voided it is nearly transparent, so that its muscular and visceral apparatus may be seen by the unaided eye, and without dissection of the animal. The color is white, yellow, or pinkish, according to the nature of the aliment it may have recently taken. Its usual place of abode is in the small intestines, where it fares sumptuously on the rich chylous pap already prepared for its subsistence. But being somewhat enterprising and migratory in its habits, it wanders up and down, and occasionally makes its voluntary exit at either extremity of the alimentary canal. It occurs more frequently than any other variety of intestinal parasite. It is sometimes solitary, but most usually gregarious in its social and domestic aptitudes, being sometimes found in very great numbers intricately linked and coiled together in a mass almost globular in form. When expelled from the alimentary canal, if still living, it has a feeble aimless motion and soon dies.

Symptoms.—These are general and special. The first are common to worm presence in any portion of the digestive canal; the second are peculiar to the special variety of the parasite. For instance, the long round and long threadworm, if present in any considerable number, will be likely to cause voracity, diarrhœa, and abdominal pain, the "bellyache" of children; not a very elegant but a very expressive mode of describing the pain. The short threadworm, by its gnawing, frisky habits, produces an intolerable titillation and pruritus in the rectum. The general worm symptoms are so exceedingly like those proceeding from gastric and intestinal disorder generally, as to make it a matter of difficulty to determine in a given case how much of the morbid

condition should be set down to functional disorder, and how much to the parasitic presence. The symptoms usually relied on as "worm symptoms," are fetid breath, freakished or capricious appetite, voracity, thick, swollen lips, furred tongue, poor sleep, fretful, unamiable temper, hard, painful, tumid abdomen, urinary incontinence, strangury, fever, convulsions, and delirium; also a habit of picking the lips and picking or boring with the fingers into the nasal cavities. But after all it must be confessed that with all these abnormal conditions present, there may be wanting the one true diagnostic sign,—the worm expulsion.

The foregoing abnormalities being present with an occasional expulsion of worms, we may safely conclude that their presence is at least a contributing factor in the pathological display, and more especially if the expulsion be followed by an immediate return to a state of good health. But so often do we see all the foregoing signs present without any worm expulsion, with a rapid return to a state of health under appropriate treatment, having no reference to the presence or absence of worms, as to raise a strong doubt as to their etiological relations to symptomatic display. When present in large numbers the two most prominent signs or conditions are abdominal pain and *voracity*, the latter symptom being probably caused in a good degree by the worm consumption of the child's chylous supply in case the trouble be from the long round-worm prevalence. The chief source and sign of trouble from the presence of the short threadworm as before stated is the anal and rectum pruritus which prevents rest and repose.

Treatment.—When we can be sure that the worm is present in the alimentary canal the plain indication is to administer such agent or remedy as offers the prospect of killing it. There are a few very potent agents for this purpose. For the destruction of the long round-worm and the long threadworm, the Chenopodium Anthelminticum, Spigelia Marilandica, and Terebinthina are in most usual request. Of these, the Chenopodium, commonly known as Wormseed, has the greatest efficacy. By its peculiar

pungent aroma it may be readily detected in nearly all the patent "Vermifuges" sold in the market. In fact they consist almost entirely of Castor oil, Spirits of turpentine, and essence of Wormseed. The combination is made upon the theory that the parasite will be killed by the Turpentine and Wormseed essence, and be carried out of the intestinal canal by the aperient action of the Castor oil.

The Spigelia is also a very effective vermifuge. It is best administered in the form of a sweetened infusion in tablespoonful doses, every three or four hours for twenty-four hours. It is open to objection on account of the severe vertigo which may follow its use.

The usual mode of administering the turpentine is to give five to ten drops on dry sugar on an empty stomach early in the morning for about three mornings in succession.

The *Santonin*, a proximate or resinoid preparation from the Chenopodium or Artemisia family, has considerable reputation as an anthelmintic, given in two to four grain doses twice per day for two or three days. It is less effective than some of the articles mentioned, but has an advantage in being less disagreeable to take than some of the more effective ones. A very convenient mode of administering the wormseed is to simmer them in molasses until the mass is converted into a sort of cake or candy, of which the child may be allowed to eat freely every morning for three mornings in succession. Any or all of these anthelmintics should be given on an empty stomach, in massive doses, and for about three days in succession. They seem more effective when given in connection with a liberal quantity of saccharine material which probably commends the worm poison to the palate and appetite of the worm. We do not recognize the necessity or propriety of administering a cathartic after the vermifuge, except it be for the satisfaction of seeing and knowing that the parasite has been killed by the anthelmintic; as after its death it readily takes up the line of movement and passes out of the intestines in a spontaneous way along with the intestinal feculent *debris*.

While the worm is living it probably enjoys a certain power of attaching itself to the intestinal surface, and so resists the intestinal peristaltic motion, but when dead of course loses this power of attachment or lodgement, and must in time be expelled without the aid of a purgative. Doubtless, many a child has been thrown into intestinal fever and killed outright by the insane persistence in purgatives to expel worms which never had any lodgement in the intestines whatever.

The *Ascaris Vermiculosus* (short threadworm), which usualy inhabits the large intestines, and particularly the rectum, is not so readily killed and dislodged by the remedies so effective against the long thread and long round-worms. The more satisfactory mode of treatment for the *Ascarides* is by strong pungent enemata of salt water, Tincture of aloes, Spirits of turpentine, and Carbolic acid. The difficulty to be encountered in the way of complete relief, consists in the fact that a few of the worms are likely to escape death and expulsion, by concealment in the numerous intricate folds of the mucous membrane, which rapidly multiply and reinhabit the abode lately vacated by their predecessors. This fact may necessitate a perseverance with the enemata daily for a week or more in order to make sure work of the entire lot of intruders.

Whilst massive doses of the medicines named are so effective and necessary in killing and expelling the intestinal parasites, we should not lose sight of the very important fact that they are beautifully effective in *attenuated* forms in the treatment of what are known as "worm symptoms," which may precede, accompany, and follow the death and dislodgement of the worms.

Cina.—Abdominal pain, tumid belly, fetid breath, furred tongue, capricious appetite, voracity, diarrhœa, slight fever, tossing at night, chilliness, picking the lips, and boring in the nasal cavity.

Spigelia.—Much fever, delirium, vertigo, night terrors, dilated pupils, flushed cheeks, much heat about the head with cool extremities, and frontal headache.

Terebinthina.—Red furred tongue, diarrhœa, tumid belly, loss of appetite, scant urine, incontinence of urine, strangury, frequent calls to urinate, and milky urine.

Diet.—If the views already advanced as the pathology and etiology in this class of difficulties be true, it becomes at once apparent that the greatest care and prudence should be enforced under this head, with a view to relief of present symptoms and the chances of symptomatic recurrence. The diet should be of good sustaining quality and quantity, and carefully adapted to the enfeebled and vitiated powers of digestion and assimilation.

MENTAL AND MORAL MANAGEMENT OF CHILDREN.

HUMANITY, in its broadest and noblest sense, is a triple compound of physical, mental, and moral activities. In approaching this concluding chapter of the task in hand, under the above caption, we are fully conscious that it will be difficult to avoid a certain tendency to a sentimental and sermonizing vein, which may not be altogether in harmony with the usually staid, sober, matter-of-fact style found in books on practical medicine. A happy co-ordination and equilibrium between the physical, mental, and moral powers and activities should result in a perfect specimen of a human being; and result in perfect happiness to the individual when surrounded by associates with similar perfections. But as this theoretic ideal type of perfection and happiness would seem to be, to a certain extent, incompatible with the known fact that the voluntary power to do *right* necessarily involves a corresponding power to do *wrong*, we take humanity as we find it, and must be content to do what we may to confirm and promote its strength in the normal direction, and guard against its weakness and tendency to excess in that which is clearly abnormal. Hygiene, in both theory and practice, is largely at fault in its partial or one-sided mode of cultivating the legs and

arms, to the neglect of an approximate equilibrium between the three departments of humanity's triple nature. Whilst shapely legs and a fair complexion are most desirable, and a clean shirt and a full stomach of good food are opportunities to be courted and coveted, yet we should constantly keep in mind that a pair of good legs and stalwart arms without intellect, are qualities which, to a large extent, may be in the possession of the brute beast; and that large physical and mental power without moral control, may make a fiendish demon in all the departments of the personal, social, domestic, and political relations of life. If we look to the experience of the past history of humanity, or to examples of great social, personal, and professional prominence, now transpiring all around us, we shall find ample material for illustration. If we take a look into our national Senate, probably one of the most intellectual and august bodies that has ever enacted a part in the drama of civilization, we behold the humiliating spectacle of a magnificent stalwart physique associated with the highest order of intellectual splendor, but for the want of moral ballast all besmirched and begrimed with a reputation for *liaisons* with other men's wives, political jobbery, and the use of official "opportunity." A few feet away we see a wheelbarrow filled with intellect wheeled into its place, for the want of a stomach and limbs beneath a magnificent brain. If we recur to the memories of the past we behold the "immortal" author of *Don Juan*, with the physical and personal graces of Apollo, and a wealth of intellect rarely equalled or surpassed, revelling in all the hideousness of sensuality, and pouring forth in his literary efforts a stream of rarest mental scintillations, infected by an aroma of impurity, with which we cannot with safety trust ourselves or our children.

The author of the *Essay on Man* and the *Dunciad* we find bound in straps and splints to keep the parts of his miserable carcass in apposition, and incessantly imbibing strong coffee to keep soul and body from parting company, while he taxed his splendid intellect for modes of revenge upon his enemies, and yielded a niggardly hand of approbation towards his friends, little

better than downright misanthropy. The great soldier-emperor of France, with a personal force and military genius which for a time awed and controlled the destinies of a continent, knew no sense of obligation or incentive to action other than the promptings of an unholy, inordinate personal ambition, which might prompt him to any and every crime, all the way up from the immolation of a loving, faithful wife, to the slaughter of human beings by the thousand for the attainment of his selfish aims. In all these notable and memorable examples of brilliant parts in certain directions we find that abnormal absence of the triple equilibrium which should have made the great soldier the benefactor of his race instead of a curse, and which should have brought him peacefully down to an honored and timely grave, amidst pæans of gratitude, instead of that anguish, exile, and restraint which society finds necessary in its own defence against a monster. The two great poets need not have been less brilliant, with a pair of legs, a sweet and amiable temper for one, and some decent regard for the rights of others and the proprieties of life on the part of the other. The two brilliant senators need not be the less showy or useful with a stout corpus for one, and some conformity to two or three articles in the Christian decalogue on the part of the other. All excessive development in one or two departments of our nature, at the expense of disparagement and dwarfage to others, must end necessarily in personal misery to the individual, and great hurt and hindrance to his associates, be they few or many. The abnormality of partial excessive development finds ample illustration in certain musical and mathematical monstrosities which occasionally spring up, and who, with marvellous power in a certain direction, have scarcely the common sense to provide food and raiment. In the case of the negro "Blind Tom," we find musical development probably never equalled in the history of civilization. With the wonderful ability to repeat with the greatest accuracy a piece of music just heard but once, and however long and complicated, and with ability to play at the piano simultaneously a separate tune with each hand, while

he whistles or sings a third, we find him totally blind, repulsive in person, and so nearly imbecile as to require guardianship and personal attention from others in order to his personal comfort and safety. Having thus furnished samples of partial development, necessarily abnormal to the individual and to the race, from the absence of the balance of a true equilibrium of all the parts, we come now to present samples of an opposite and more pleasing character. In this connection we may mention in our own country and times such notable examples as the two late competing candidates for the presidency, the late commanding general in the "Southern Confederacy," ex-President Fillmore, just gone to his grave under a weight of years and honors; each and all with splendid graces of person and presence, rare intellectual powers, and a private and official record, against which even partisan strife and political rivalries have made no successful assaults; and last, but not least, the "Father of his Country." In Europe we find such illustrious examples of the full, well-rounded manhood and womanhood as the late Lord Macaulay, Queen Victoria, the late Prince Consort, the late Duke of Wellington, the late Lord Brougham, and premier Gladstone. In our own profession, as samples of personal and professional manhood, we delight to honor such names as Hahnemann, Hering, and Dunham.

Now, whilst we could scarcely hope to equal these samples of well-rounded excellence and power on the one hand, and avoid entirely many of the irregularities and unequal developments in the adverse examples on the other, in our efforts to train and rear the children of the present and future, yet we have the consoling assurance that very much may be done to approach the good and largely avoid the bad. It will be readily apparent to those who may give themselves the trouble to review this, my literary effort in behalf of baby clientage, that the prophylactic or preventive view is everywhere present. The confirmed rake, libertine, debauchee, drunkard, liar, thief, murderer, will, in the main, remain such to the end. Reclamation will form the exception; persistence in evil ways will constitute the rule. By common consent

our practitioners are rapidly becoming the conservators of juvenile welfare in bodily health, mind, and morals. Let us accept the holy mission with a will and a zeal, and come well to the front, since we may do so much to prevent lamentable results to these little ones, though we may be able to do so little for reclamation of their badly ordered ancestors. Having already said something under the head of hygiene, in a separate chapter, as to physical management, we propose to devote the remaining space to some consideration of what may be best for the mind and morals of children.

Permanent **Mania** in infancy and early childhood is neither probable or frequent. **Idiocy** as a congenital infirmity is of far more frequent occurrence. It is specially liable to be the condition of mind accompanying chronic hydrocephalus. It is nearly always accompanied by abnormal physical development in some portion of the body. This abnormal physical condition is nearly always prominent and most apparent within the cranial cavity; sometimes in the shape of muscular atrophy; at others in the form of club-foot, hare-lip, strabismus, nævi, surplus toes or fingers, or the entire absence of parts or members of the body. The brain may be excessively large or preternaturally small. The normal balance between the cerebrum and cerebellum as to volume is usually broken by defective or insufficient size of the former and excessive size of the latter. Hence we find the perceptive, reflective, reasoning, and moral powers feeble or absent, while the sensuous, vegetative, and emotional powers are in great power and excess of development. The peculiar bulging of the frontal region of the cranium is apparent rather than real, and is produced by the flattening of the brain at its uppermost portion and in the lower portion of the frontal region. As may readily be anticipated, such defects and peculiarities within the cranial cavity while they result in mental and moral feebleness bring into great activity the vegetative and sensuous powers. Consequently we find such children great eaters, good sleepers, given to romping, prattle, and play; when irritated, they become violent and pugnacious.

Such girls menstruate at an early age, have precocious sexual developments, are immodest, libidinous, and fall into habits of self-abuse. The same is true of boys, except to a marked and more violent extent. The temperament is usually lymphatic. There is much tendency to inflammation and other disorders of the lymphatic glands.

Imbecility.—The distinction between this condition of mental infirmity and *idiocy* is in degree rather than nature, the latter involving more complete mental blight than the former. It may be either congenital or acquired. But we believe it is the custom to apply the term more particularly to the acquired form of trouble as it occurs in connection with epilepsy, chorea, rachitis, and atrophic muscular paralysis. It presents itself in various phases as to mildness or violence all the way from cases so mild as to be scarcely discernible, until the approach nears the condition of complete idiocy. This class of cases presents much the same state of habits and tastes as in idiocy, stealthiness, lying, libidinousness, and onanism being prominent traits.

Treatment.—This consists largely in *management* and restraint, rather than in the use of therapeutic appliance, both for idiocy and imbecility. These cases are usually hopeless so far as either partial or complete recovery is concerned. The two leading objects in management are safety and kindliness. To treat such cases by harsh disciplinary modes is the very perfection of cruelty, and besides usually has the effect to render them more refractory and disobedient. Gentleness and kindness will do much more to regulate any irregularity or peculiarity. Great pains should be taken in all their appointments and surroundings to save them from bodily hurt or harm from falls, blows, fire, or the indiscreet use of sharp implements, weapons, and strong drugs. Families with ample arrangements and abundant means may undertake the management of such cases at the family domicile; but as a general rule the care of such cases will be found more effective, convenient, and economical in a well-regulated public establishment specially adapted to such purposes.

Mental Backwardness.—A careful distinction should be kept up between this condition on the one hand and idiocy and imbecility on the other. Mental slowness or backwardness in young children with time and judicious management offers a comfortable promise and prospect of fair relief. Indeed, such cases sometimes make progress until they attain to the very highest order of mental strength. Some of the most conspicuous figures in science, art, and literature have grown up to such prominence from childhood, when they were voted stupid boobies by their parents and classmates. We have just seen that nothing of the kind can be predicated of idiocy and imbecility.

The **Management** of this class of cases should consist largely in a gentle kindly forbearance, spread out over a long space of time, with great care in not expecting or demanding too much from them, and in placing them in positions where, as far as possible, they may be saved the humiliation of unfavorable contrasts and the consciousness of ignominious failures. With care in the preservation of physical health, in connection with forbearance and wisdom, perseveringly adhered to, these cases will ultimately equal any reasonable expectation in mental and personal success, and many of them attain to the very highest order of merit and success. Convince a dull boy of his stupidity or backwardness, and then inspire him with an abiding determination to compensate his natural defects by personal exertion, and there is scarcely any limit to the excellence which he may attain.

Precocity.—While this mental condition is always a source of pride to parents, it does not bring unmingled pleasure, as such children are usually said to be "too smart to be raised." Of course, it is not preternatural strength of mind that endangers the life, but the want of bodily vigor, which comes in some way to be lost, the loss being in favor of mental growth or activity. The disparity between a weazen face and slender legs on the one hand, and superior mental ability on the other, is not merely relative but an absolute defect in the one and excess in the other. In other words such children have an excess of mental activity

for their years, though associated with better bodily stamina. There are several objections to this disparity between age and mental development. In the first place, while associated with physical defect it has a strong tendency to keep up and increase the disparity between body and mind, until finally, if death do not snap the brittle thread of life, the party shrivels in body and grows in mind, until the one becomes a pigmy and the other gigantic. Again, such precocity engenders certain social qualities of a disagreeable order, such as vanity, egotism, and imperiousness. Still further, such premature activity usually results in premature arrest of growth and early mental decay.

In other words such individuals will be found to reach their mental maturity at too early an age, probably reaching their greatest mental strength at twelve to twenty years of age. The natural result of which must be premature decline and decay.

The **Management** of these cases will, of course, be readily obvious,—restrain the mind and cultivate the body. Between the disinclination of such children for bodily exercise and the silly ambition of their parents to have them pushed at school, such treatment as is suitable for these cases is not always easy of adoption. Such children should be encouraged to eat and sleep and romp without stint or limit. All things concurring they should live in the country, with access to dogs and horses as aids and inducements to sports and activities. If they can be induced to assist in farm culture, and simple mechanical pursuits, all the better. They should be allowed but little access to books, schools, or other sources of intellectual activity until ten or twelve years of age. Boxing, fencing, rowing, and dancing should have prominent place as modes of physical activity and amusement, the choice of these modes of course having reference to the strength, age, and sex of the child.

Educational Modes.—We have long been of the opinion that the habit, especially in our city public schools, of stuffing and cramming every boy and girl precisely alike, from six or seven to fifteen or sixteen years of age, without any reference to the child's

tastes or inclinations, or his present or probable future mode of pursuit, is a huge mistake. Every child should be educated with some special aim or idea as to his probable future employment, one course for a merchant, another for a mechanic, another for agriculture, and so on. Again, we hope the time may come when every child who enters a free school, shall be required to spend a part of the time at some useful manual occupation; so that by the end of his or her ten years at school, during which the mind shall have received all needful culture, there shall have been also some effort at bodily, manual culture, which may render the individual self-supporting. If the children of the rich do not choose to enter the free school upon the condition that they shall learn a trade, their money will enable them to exercise the option of going elsewhere. We think the present modes in our free schools result largely in filling the cities especially, with educated vagabonds, who being too proud to work and too poor to live without it, betake themselves to their wits and certain questionable sharp practices at the expense of society and good order. Take a child from the slums and lower walks of life, and spend ten years in cramming his brain with syllogisms, conjugations, and what not, and nine times out of ten at the end of the process he will consider it far below the dignity of cultured manhood to attempt an honest living by honest hard work. We think such a result might be readily avoided by requiring him to spend one-half of the ten years in acquiring a knowledge of some manual occupation as a means of support. The theory is, that society must educate the children of the poor and lowly as a means of self-defence against evil practices. But we think it doubtful if society would not be quite as safe in neighborship to an ignorant vagabond as she would be in taking to her embrace an educated one. Let the children of the poor be educated and at public expense, but in the meantime compel them to become self-supporting by acquiring a knowledge of some useful manual occupation.

The **Moral Code** for children need not be long or elaborate. There are a few things in which they may need encouragement,

and others in which restraint may be desirable or necessary. There are about four points that need to be carefully guarded: veracity, sexual activity, stimulants, and temptation generally. We propose to give brief attention in the order of naming.

Veracity.—The habit of speaking the truth tenaciously is at the very foundation of all virtue and morality. It is the substratum upon which all good character must stand. Convince me that an individual stands by the truth in word and spirit, under good or evil report, and I have hope for such a one, however wayward and perverse otherwise, except it be of course in those forms of waywardness where the will-power may have been lost, of which we have prominent examples in habitual intoxication.

In the cultivation of veracious habits in children two things are important. In the first place we should never deceive them either directly or by crafty evasion. In the next place we should be most careful not to set them a bad example in this respect, even where they are not immediately interested. They undoubtedly have a wonderful facility for learning from either bad precept or bad example in this particular, and quickly make their knowledge available for the accomplishment of any desired aim or for the concealment of any fault or dereliction, as a means of escaping the penalty for wrong-doing. Then, too, children have a great love of the marvellous, which, with slight experience in prevarication, leads readily to the most grotesque forms of exaggeration.

Next to healthy precept and a good example one of the most important means of security to good habits in this matter is not to push them too severely when under inquisition as to some real or supposed fault. Always allow the fault to go undiscovered and unpunished rather than push the little culprit to the wall, when the chances are that a lie will be the resort to escape detection and the merited penalty. In this connection it may be well to say, that parents will find it much more profitable to let a great many peccadillos go unnoticed, than to keep up an incessant state

of police vigilance, which must sooner or later result in flagrant disregard of authority, vexation, and insincerity.

Sexual Activity.—Children undoubtedly begin to feel more or less impulse in this direction at a very early age, in many instances as early as the fifth or sixth year, certainly long anteriorly to the time when copulation or procreation could be thought advisable or desirable upon the score of either good health or good morals. This early impulse is true to a much larger extent among boys than girls. The superior modesty and reserve among females, together with a relatively weaker appetite, render them much greater security against premature activity and excess than in the case of boys. The consequences resulting from premature activity of the sexual functions are of the first importance to the child, both morally and physically, whether the activity be by direct sexual congress or in the form of masturbation. The want of facilities and oppportunities, together with the risk of exposure in sexual congress, generally leads to masturbation, under which mode, the facilities and privacy being such as to save the risk of exposure, the excess or extent of indulgence soon becomes so violent as to sap the individual powers in every direction, physical, mental, and moral. Under this state of excess the child has a premature look of maturity, ceases in physical growth, becomes swarthy, shrivelled, imbecile, and probably epileptic. To save children from such untoward habits and consequences is certainly a matter of the very first importance.

In the first place we should say it is important to guard against an unrestrained miscellany and intimacy between the opposite sex, even at a very early age. They should be allowed companionship with each other, but usually under adult supervision, at least after the fourth or fifth year. After the third year they should have separate sleeping apartments, and on no account be allowed to occupy the same bed jointly. The "overt act" at this early period is not probable, but modesty and reserve suffer impairment, and the emotion soon warms into an activity which sooner or later results in excess or abuse in some form.

Of course all books, pictures, and conversations of an immodest and amative kind should be sedulously guarded against.

It has long been a matter of surprise to me that parents so often allow and keep within and about the family domicile both sexes of certain domesticated animals with conspicuously erotic habits, such as dogs, cats, and goats, which by their noisy habits of barking, squalling, and bleating, take the precaution to notify all the children in the neighborhood of a certain important transaction about to take place. We respectfully suggest that the peculiar *modes* of a ram goat, as a daily spectacle of observation by a full-blooded and somewhat amorous boy, are not just what St. Paul or Solomon would advise or approve of. This view of the matter may seem just a little hypercritical, but we here place it on record as our unqualified condemnation of what we have long thought to be a most hurtful and pernicious influence among children.

Stimulants.—We have already said so much under this head in the article on hygiene as to render only a few words necessary here. Suffice it to say children should be kept sedulously from the influence of tea, coffee, opium, tobacco, and all forms of intoxicating beverage. The peculiar fascination attending these forms of indulgence will surely destroy the will-power if indulged in early childhood, and lead to ruinous excess. Under our present social modes we think the foundation for drunkenness is largely laid in childhood and early life, for want of suitable restraints and precautions on the part of parents and physicians.

Temptation.—Under this head we have a word of suggestion which parents may probably feel unnecessary, and that is, that children should not be placed prematurely in trusts and the use of means which they may be liable to violate or misuse. Under this head we would mention the use of money beyond their reasonable wants, access alone to places of public amusement and resort, being sent away from home influence to travel, to college, etc. Undoubtedly thousands of parents have been able to date

the moral ruin of their sons from the time of leaving the parental roof for the college or university.

Finally.—The parting word between myself and the reader shall be a plea in behalf of *Religion*. I do not propose to enter the list as a propagandist or proselyter to denominational theology. But I here undertake to say that the highest order of social elevation and personal success in the aggregate have grown up under the auspices of the religious idea, as presented to us under the garb of biblical revelation. Let children grow up under the theory or idea that the tastes, habits, and experiences of this life may largely influence and determine the conditions and experiences of *the Great Beyond*, and moral obligation and incentive in this life's experience will be all the better, sweeter, and purer for such theory and conviction. Encourage children, then, in religious tastes, habits, and ideas, as the best guarantee for good conduct in this life, to say nothing of fitness for a life that may come after this, whether we will it so or not.

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