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A

DECALOGUE FOR THE NURSERY

BY

S. J. DONALDSON, M.D.

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PREFACE.

A REVIEW of mortuary statistics reveals the startling fact that nearly fifty per cent. of deaths occur under the age of five years, about sixty per cent. of these being infants under twelve months. That this enormous blight of humanity is the legitimate outcome of ignorance or carelessness concerning the fundamental laws of life, and failure to conform to simple hygienic measures, becomes a melancholy probability in view of the significant fact that everywhere the chief decimating factor of childhood is NUTRITIONAL DISORDERS.

How commonly physicians are made helpless witnesses to the deplorable consequences of inexcusable shortcomings on the part of parents, who, so far as actual results extend, are unwittingly party to infanticide! At such

times is keenly felt the want of some efficient means whereby the parental mind might not only be properly enlightened, but quickened to a degree that would forefend the little ones against similar evils in the future.

The best instruction is apt to prove futile when advanced in the confusion of a sick-room, or addressed to those perplexed with anxieties or overwhelmed with grief; therefore, as just remarked, the vital point is the early enlightenment which averts disaster. Moreover, it is impracticable for the busy physician to be continually explaining orally the intricacies of infant sanitation. Sooner or later the constant reiteration which heedlessness and oft-recurring events impose, must dishearten the most faithful, and it is then he would gladly avail himself of some material means to satisfactorily convey the views he seeks to impart, and conserve to him valuable time and energy.

It may be claimed that this requirement has long since been met, and that there is, in fact, already supplied to the public a surplus of domestic books devoted to the clinical management of children. Casually this point of ex-

ception seems to be well taken, but a closer inspection will show that the bulk of that which has been written upon this topic has an undesirable tendency; while containing much valuable information, these publications are too largely given to the discussion of diseases and medication, to the neglect of those hygienic measures which it is the special part of parents to observe.

In the nursery nothing is more to be dreaded than the officiousness of someone possessing a smattering of knowledge in the art of prescribing medicines, with an ardent desire to make practical application of his meagre fund of information. Hence it often occurs that the endeavors of physicians are not only embarrassed, but it may be completely frustrated, by the pretentiousness of those given to dabbling with drugs and the study of popular domestic medical lore.

On every hand are met mothers possessing a remarkable familiarity with the technicalities of medicine, who are nevertheless woefully ignorant of the primary laws of life. They will discourse volubly on the character of the

pulse, the thermometric range of the bodily temperature, of the medication they have deemed especially suitable in certain disorders, etc., and yet they are wholly unacquainted with the principles of digestion and assimilation, know little or nothing of the vascular system, and from whence the body derives its animal heat, nor have they ever thought to look beyond the mere *primary action* to the *ultimate* effects of drugs.

For a long time my mind has been peculiarly alive to these and kindred evils, which entail far more suffering upon the little ones than the combined adverse elements in Nature. It is from this standpoint that the precepts embodied in the following pages have been adduced. I hold that the highest office in the department of domestic therapeutics consists not in the knowledge of pathology, the action and proper administering of drugs, or familiarity with technical matters, but rather in the practice of those fundamentals of correct living that shall avert disease. Many of the precepts embodied are so elementary in character, that only a personal observation of the disregard commonly

shown them, has emboldened me to direct attention to their importance. The beaten track of popular beliefs and customs has been frequently diverged from, but nothing has been offered impulsively or upon mere speculation. Each new measure resting upon a logical basis is sustained by personal observation, and varied experience. Comparatively little space has been given to the drug treatment of diseases for reasons suggested. That which has been advanced under this head, has for its aim the elucidation of a few valuable precepts regarding the general action of medicine, with which every adult should be acquainted ; with a like practical purpose, a few pages have been devoted to the subject of diagnosing, for it is incumbent upon all intelligent persons to learn the characteristic symptoms of the various common ailments, that valuable time may not be lost in securing proper assistance.

In the matter of therapeutics, I have sought to protect the nursery from drugging, as far as may be. Were it possible I would make the precepts of philosophical living so prominent and attractive, as to put completely out of sight compara-

tively worthless dosage. Since this is not at present practicable, we will accord appropriate attention to the right and wrong uses of a few drugs, ever insisting, however, that in the most perfect use of these the key to physical well-being is not found, and to entertain such belief is to foster delusion.

When physiological laws and nature's requirements are rightly comprehended the thought of pill or potion, will not so fully preoccupy the mind when contemplating physical ailments.

72 MADISON AVENUE, June 1, 1886.

CONTENTS.

CHAPTER I.

PART I.—WASHING AND CLOTHING OF INFANTS.

	PAGE
Relation between Skin and Mucous Membrane—Construction of Integument—Number and Extent of Sweat Glands—Nature and Amount of Excreta thrown off by the Skin—Excessive Bathing Injurious—Warm Bathing a cause of Catarrh—Temperature of Bath—Bathing Appurtenances—Undue Friction of Skin—Time of Bath.....	1-12

PART 2.—CLOTHING.

Essentials in the Raiment of Children—Protection of Extremities—Heavy Clothing or Bundling.....	13-15
---	-------

CHAPTER II.

BODILY POSTURE.

Predilections of Children for certain Positions—Forcing Infants to occupy Unnatural and Injurious Positions	
---	--

—Proper Bodily Posturing determined by Anatomical Principles—Reclining Position of Infants and the Lower Animals—Faultiness of Dorsal Position—Necessity for Frequent Shifting of the Body—Stagnation Induced by Inaction—Muscular Movement Indispensable to Complete Circulation of the Blood—Impurities within the Tissues eliminated by Motion—Application of these Principles to Diseased States—Massage. . . . 16-30

CHAPTER III.

INFANT DIET.

Digestive Apparatus, its Conformation and Extent—Alimentary Glands, their Secretion, and Special Function of each Set—Significance of Drooling—Starch-bearing Food, When and When not Admissible—Pernicious Habit of Overfeeding—Why Infants should not be Fed during the Night—The Complaints due to Gastric Irritation Mistaken for the Clamoring of Hunger—The Nursing-bottle an Odious Device—Approved Form of Nursing-bottle—Teaching Infants to Drink—Artificial or Alien Food—Cow's Milk, its Constituents compared to those of Human Milk—Modifications Necessary to be made in Cow's Milk—Mother's Diet—Regulation of Diet and all Influences affecting the Cow—Bone-forming Ingredients, Lack of in Food, Regimen for, the Restoration of—Misfortunes of Cow reflected upon Child—Condensed Milk—Artificial Milk Food Preparations—Comparative Table showing Relative Value of Breast, Cow's, and

CONTENTS.

xi

PAGE

Attenuated Condensed Milk, and the Artificial Milk Food—Cereals, Preparations of, Relative Merits, and when Admissible.....31-79

CHAPTER IV.

DENTITION.

Time and Order of Appearance of Teeth—Remissions, and Importance of Utilizing Periods of Rest—Divergences from Usual Order—Intestinal Disturbance during Dentition—Pernicious Management of Infantile Diarrhœas—"Soothing" Medicines—Laxatives versus Astringents—Painful Gums and their Treatment.....80-96

CHAPTER V.

FRESH AIR.

Amount Exhausted in Normal Respiration—Carbonic Acid, its Relation to and Effect upon the Animal Economy—Carbonic Acid, Amount Exhaled—The Phenomena of Blood Oxygenation—Circuit of the Blood through the Body, Manner and Frequency of—Method of Ventilating Rooms—Hot Stoves and Burning Gas-jets.....97-107

CHAPTER VI.

NURSERY APPURTENANCES.

Sunshine in the Nursery—Nursery Crib—Means of Amusement—Dangerous Playthings—Approved

	PAGE
Form of Toys — Poisonous Pigments and Wall-paper—Protection of Infants' Eyes from Injurious Reflections—Safeguards against Accidents.....	108-117

CHAPTER VII.

EARLY INDICATIONS OF DISEASE.

Mother's Perception—Significance of Different Cries—Colic Cry—Brain Cry—Cry peculiar to Chest Affections—Various Movements and Gestures of Infants Indicative—Convulsions, Premonitions of—Indications of Pulmonary Affections; Premonitions of Pneumonia, Pleurisy, Diphtheria, Croup—Differentiation between False and True Types of Croup—Early Indications of Tuberculosis.....	118-130
---	---------

CHAPTER VIII.

THE RIGHT AND WRONG USAGE OF DRUGS.

Baleful Results of Drugging—Predilection of the Masses for Dabbling with Medicines—Difficulties Besetting the Construction of a Therapeutic Guide for the Nursery—Necessity of Studying Symptoms Intently and the Proper Interpretation of Them—How we Acquire Reliable Knowledge of the Action of Drugs	131-145
--	---------

CHAPTER IX.

DOMESTIC TREATMENT OF DISEASE.

	PAGE
Importance of fixing Rigid Limitations to Domestic Therapy—Croup : Spasmodic, Membranous ; Manner of giving Hot Baths in—Construction and Application of Poullice—Diphtheria : Nature, Diagnosis, and Treatment : Old School Treatment of Diphtheria ; Table differentiating Croup from Diphtheria—Scarlet Fever ; Scarletina—Measles ; Early Exposure to Measles advisable—Whooping-cough—Acute Affections of Respiratory Organs—Baleful Effects of Narcotics and Quinia in Pneumonia—Mumps—Infantile Diarrhœa—Danger of Checking Diarrhœa—Distinction made between Dysentery and Diarrhœa—Fatal Tendency of Dysentery—Prolapsus Ani—Habitual Constipation ; Cathartics and use of Syringe Originating Factors in—Incontinence of Urine—Spasmodic Convulsions—Hip-joint Disease ; Early Detection and Right Management of Utmost Importance : Danger of Trifling with any form of Lameness in Childhood—Scald-head, Tenia Capitis, Yellow Crust	146-227

CHAPTER X.

SELECTION, PREPARATION, AND USE OF REMEDIES.

Hints regarding Care and Handling of Medicines—List of Remedies, Abbreviations, Attenuations, etc.—Size of Dose—Action of Remedies in Health and Disease—

	PAGE
The System rendered by Disease more Sensitive to the Action of the Indicated Drug—List of Commended Drugs, with their Characteristic Symptoms	228-250

NURSERY SCRAP-BASKET.

Disinfectants and Disinfectant Solutions—House Sewerage — Rest as a Remedy—Barley-water—Gumarabic-water — Lime-water — Clinical Thermometer — Lactometer, and Cream-gauge—Deceit in the Nursery —Compulsory Kissing—Corporeal Punishment—The Power of Example—Awakening of Intelligence—Ghost Stories—Kindliness	251-269
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A DECALOGUE FOR THE NURSERY.

CHAPTER I.

WASHING AND CLOTHING OF INFANTS.

THROUGHOUT all time the attention accorded physical cleanliness has been a fair criterion of the ethics of individuals and communities, and to the majority of cultivated minds, the term cleanliness is synonymous with moral, as well as physical excellence. Accordingly, in the best homes of civilized countries, the bath-tub is placed among the household gods. Negligence in this particular is everywhere repugnant, but nowhere more so than when associated with childhood, its guilelessness offering the strongest protest against the offence of bodily impurity. In view of this widespread sentiment it is not strange that children of parents in the higher classes are through

excess of this hygienic observance made to suffer.

There are, doubtless, few mothers who would not resent any suggestion that their knowledge regarding the judicious application of this simple nursery rite was seriously at fault; and, indeed, positive indignation is usually aroused by any professional encroachment upon that ceremony which is generally held to be the especial prerogative of the mother. Notwithstanding the apparent simplicity of this matter, observation has long since convinced me that where every requisite is afforded, there will still be found very objectionable practices connected with infant bathing.

It must be conceded that, as individual temperament and strength are by no means uniform, it is impossible to determine upon an arbitrary course applicable to each and all. The utmost, therefore, that we can hope to accomplish, is an approximation to that which common-sense and a correct appreciation of physiological principles suggest.

Space will not admit of a detailed account of the anatomical and histological peculiarities of

the skin, nor of the intimate functional relationship it holds with the mucosa and the chief organs of excretion, but it is necessary to our present purpose to refer to a few of the essential features of this important topic.

Three layers compose the integument, every part of which is pierced with a myriad of minute excretory ducts ranging from four hundred to three thousand to the square inch, which in health are ceaselessly exuding from the body moisture, known as sensible and insensible perspiration, the chemical nature of which we need not pause to discuss, but simply state that a complete suppression of this noxious excretion by sealing up the innumerable points of egress, would speedily result in sickness and death.

By the side of each one of these sweat-pores is found a minute loop of sentient nerve-filament that turns back just beneath the epidermis or outer layer, which is squamous, constantly ripening and scaling off, and at the same time being replaced by the fresh scales continually forming beneath and crowding upward.

The office of this superficial layer is mani-

festly the protection of the sensitive subtissues, as everyone who has suffered from its removal by chafing or abrasion can testify. This denudation exposes the extremities of the before-mentioned nerve-filaments to external influences, and so exquisitely sensitive are they that even atmospheric influences are painfully appreciable; therefore we commonly allay the discomfort by the application of an artificial covering until a new scarf-skin has had time to form.

There is another important feature of these skin-ducts which we must refer to in this connection. Each one of these minute perforations is supplied with a delicate constrictor, which in its normal condition is capable of contracting the tiny orifices, producing that roughened appearance commonly called "goose flesh." These sphincters are presided over by the loops or terminals of the cutaneous nerves just described. We shall have occasion to return to this matter shortly.

Taken as a whole the integument constitutes an extensive and highly important excretory gland, and its function is so intimately associated with the mucous tissues, (which, after all,

are but a continuation of the skin reflected within the body) that every shade of condition affecting the external, is reflected upon the inner one. To obtain a more definite appreciation, it may be stated that an adult is supposed to throw off by the surface, daily, eighteen ounces of water, half an ounce of solid matter, (oil, etc.), and about an ounce of carbonic acid on an average. It is estimated that were all the sweat-tubes of an adult uncoiled and laid end to end they would reach a distance of from eight to ten miles.

Having thus briefly alluded to these physiological essentials, let us note their bearing upon the question before us, although ready perception has doubtless made the application.

Every experienced physician dealing with the better classes can testify to the pernicious results of inordinate bathing, especially where irritating ingredients (alkaline and alcoholic) are employed, and where an undue amount of friction is exerted. In this way myriads of delicately organized beings destroy their mental as well as physical happiness, rendering themselves victims of neurasthenia, insomnia,

hysteria, and other neurotic affections, the unhappy condition being due to the fact that the epidermis is kept prematurely removed, thereby exciting and perpetuating hyperæsthesia of the extensive surface covering the entire body. Unfortunately this matter is quite generally overlooked, consequently the injury may be indefinitely prolonged even to the verge of insanity.

A large percentage of bathers experience a sensation of lassitude or devitalization following the immersion of the entire body, which transient sensation of weariness is accounted for by the fact that a part of the animal electricity passes from the body to the water, and of course when a body possessing but feeble or sluggish reactionary powers is subjected to frequent ablutions, the practice will simulate and may establish physical prostration. Now it is readily seen that the philosophy of this matter is of greater significance, when applied to children, in proportion to their more delicate tissues, the greater sensibility of their nervous organizations, and their lesser powers of resistance. Let anyone compare the quiet

contentment and uninterrupted slumber of the infant that is a comparative stranger to the scrupulous enforcement of the bath, with the peevishness, and the sleep broken by fitful starts of the one who undergoes the observance in its most rigorous form. Of course maternal pride will suggest to many minds a different explanation, but careful observation shows that (other things being equal) it matters little whether the child be the offspring of the high or of the lowly, the effect taken in the aggregate substantiates the postulate presented.

At this point attention is directed to another exceedingly important matter also commonly disregarded. All concede the greater agreeability of the warm bath, but it is a pleasure which cannot be indulged in with impunity, since it so commonly incurs severe catarrhal affections. Indeed there is no more fruitful source of bronchitis and kindred disorders, than warm bathing, with subsequent exposure to draughts or cold. The warmth and moisture combined relax the skin texture, and likewise produce a semi-paralysis of the minute con-

strictors, consequently the surface continues to be bathed in the sweat of enervation long after the completion of the bath. This renders the body peculiarly susceptible to a chill from even the slightest exposure, and should this occur the passive exudation is suddenly suppressed and there ensues an opposite condition in which repression or sealing-up of the skin excretories follows, causing a recession to the mucosa and its consequent congestion, which is manifested by sneezing, coughing, febrile symptoms, etc.

Whenever we have to deal with children unusually susceptible to taking cold, or habitually afflicted with infantile catarrh, termed "the snuffles," the matter of warm bathing should at once suggest itself, for with hardly an exception the difficulty can be traced to this source, and until this be rectified the best medical means will prove unavailing.

Let us now proceed to consider some of the more practical methods commendable in nursery bathing. Our first instrument is a correct thermometer, which is to the nursery what the compass is to the ship at sea, and for its ab-

sence there is no excuse, as one can be obtained at from fifteen to twenty-five cents, while its actual value in regulating the hygienic matters of a household cannot be computed. The health of an infant is always in jeopardy when its surroundings are not guarded by this faithful monitor, for while the sensations of the few may be approximately reliable, those of the many are untrustworthy and subject to the widest variance.

It is not exceptional upon entering a nursery in the coldest winter weather to find child, nurse, and mother living in an atmosphere approaching the nineties, which elevation was so gradually and imperceptibly reached that nothing but thermometric proof would be convincing. While preparing for the bath the room should be a little warmer than usual, say seventy degrees or even seventy-five degrees, as cold atmosphere or draughts coming in contact with the surface of the little one when emerging warm and dripping from the water, may in a few moments work deadly mischief.

The bath-tub may be made of any material and in any shape, providing its dimensions be

suitable. If portable, it may for better convenience be placed upon a stand or rack from two to three feet in height. Soft wash-cloths should be used instead of sponges, for even with scrupulous care the latter are liable to become offensive, being the remnants of animals from which the sarcous matter has been removed by passing them through stages of rotting before their final cleansing. For reasons previously stated, all unnecessary toilet articles which tend to irritate the skin should be rejected. No soap but the *oldest* castile should be used (no matter how highly other brands may be commended), and that but sparingly.

The thermometer should be placed in the water, as the hand test is not to be trusted, and here comes in the vexed question of "What shall be the temperature?" One naturally shrinks from destroying the mother's fondest picture, that of her baby, to his great delectation, kicking and splashing in his little sea of delight; but here the law of compensation must be enforced, and if baby has had his frolic in a bath with the temperature at ninety, he must endure a brisk application of the cold cloth

dipped in water at a temperature of about sixty. This will exert a tonic effect, re-establishing the textural tone of the skin, and thus prevent chill and consequent trouble, which would very likely follow were the little one, removed reeking with warm moisture, dried and dressed without heed being paid to this precautionary measure, which may be termed the hardening process. I have no heart to advocate the cold plunge or shower-bath for delicate infants, sometimes insisted upon by vigorous, inflexible mothers. It seems barbarous, and the shock thus encountered unquestionably is not only a temporary, but often an abiding injury to the delicate organization. The pernicious effects of the full bath are frequently manifested by languor, livid lips, dull expression of countenance, and petulance. In such cases rapid sponge bathing is alone admissible, and for the matter of that, this form is preferable for the majority. Speaking from observation and in the light of reason, the full warm bath should be indulged in only occasionally, say once a week, followed always by cold sponging. As a rule the immersion should not exceed a hip-bath,

extending the application to other portions of the body with the wash-cloth, always finishing by a rapid, cool application (if possible before an open fire) and speedy drying. Let there be no dallying over the process, for therein lies the chief danger to the child; therefore it should be completed briskly and cheerily to avoid any chill, and also to secure the benefits of a healthful after-glow. It is already understood that, in drying, harsh friction is to be avoided; dry soft towels are preferable, and they should previously have been thoroughly warmed by hanging before the fire. Particular care should be taken with the ears. Let no water enter the auricular canal, and avoid all rough rubbing or handling of these delicate organs, for while meagrely endowed with sentient nerves, they are peculiarly tender in their structure, and liable to take on obstinate, subacute inflammation. Should the child evince a proneness to catarrh of the nose, eyes, or ears, avoid wetting the hair at every bath, and when through necessity the scalp has to be washed, dry the hair thoroughly by friction instead of leaving it to dry by evaporation. Finally, in conformity with

physiological principles, the bath should not immediately follow a full meal.

CLOTHING.

A few words concerning the manner of clothing the baby follows naturally upon the foregoing. Since a small body loses its caloric more rapidly than a larger one of the same material, it is imperative that the little ones be suitably, and speedily protected from atmospheric influences. It must be admitted that, in the exceptional matter of dress, women are ever incapable of drawing logical deductions, seldom daring to adopt an independent course of action. The endeavors of one opposing the caprices of fashion are notoriously futile, rarely accomplishing any sensible amendment. So, then, each mother will dress her child in accordance with the custom of the time, despite all appeals to her better judgment.

As anything we might commend in the way of infant wearing apparel would probably be tabooed by fashionable mothers, we will bow with what grace we may to the powers that be, and offer only a few suggestions that can hardly

arouse opposition in any quarter. In the first place reason would suggest that simplicity, ready adjustment, and comfort are the essentials in the raiment of children. The articles worn should be as few in number as possible, and soft and pliable as a kitten's fur. Nothing is more incongruous, or can be more exasperating to the little ones, and to all with whom they come in contact, than harsh or stiffly starched clothing. How often we see a child made perfectly wretched by a stiffly starched cap-string so adjusted that the natural movements of the head are prevented. For the underwear of children all-wool fabrics should be selected on account of their low conductile properties. Garments made of this material do not allow the animal heat to escape readily and, likewise, to a proportionate degree exclude untempered atmospheric influences. In cool weather it is of paramount importance to the child's safety that the extremities be well clad and kept warm; this accomplished the trunk will seldom suffer.

It is not, however, the matter of protection to which I desire to call attention, so much as to the over-burdening with covering, from which

I am confident that infants suffer far more often than from the opposite extreme. Mothers should realize that the little one repeatedly forced to swelter under too heavy clothing by day or night, is constantly in danger of chill from the slightest exposure, and the practice is extremely enervating, being also the cause of persistent catarrhal affections. Moreover, like their elders, the little ones feel the approach of summer, and are entitled to a similar timely modification of clothing. A child whose covering is too heavy at night will, if possible, kick it off, in this way exposing itself to a chill. All this is so simple that it seems superfluous to dwell upon it, but we are impelled by the repeated evidences encountered, showing abundant reason for directing the attention of the indifferent as well as the over-cautious mothers, to the observance of these commonplace matters, which, after all, contribute directly to the happiness of the household.

CHAPTER II.

BODILY POSTURE.

In studying the movements of young children we cannot fail to observe that they possess unmistakable preferences for certain bodily attitudes. When their wishes in this particular are complied with, and their little bodies rightly adjusted, contentment reigns, but should their pantomimic appeals be disregarded or misunderstood, or their individual efforts restrained and an undesired position thrust upon them, an expression of proper resentment is not wanting. This is a matter calling for intervention, since, as a rule, there exists a direct contradiction between the conception of the adult as to what constitutes the proper mode of reclining, and baby's predilections. The nurse or mother probably lies on her back, and sits in a half-reclining position, but the little ones resent both these attitudes, choosing to lie prone or semi-prone, or if sitting, to be erect or slightly tilted

forward; hence a contention is usually carried on, until through superior strength, and dint of persistence, infants are trained to conform their ways to the controlling power.

Fortunate would it be for the children could opinionated adults be led to intelligently study these early natural expressions. The habit of enforcing upon the young, by virtue of physical superiority, our personal preconceptions of what is a suitable position is too often a grievous injury to them.

Let us turn to facts in nature for a settlement of this question. If we compare the reclining position, voluntarily assumed by young children, with that of the domestic animals, we will find that in most respects they correspond. If we search for an explanation of this, we will find it plainly shown in the study of comparative anatomy. In the first place, it should be understood that there is a natural upper and lower portion of every organ and gland within the body, as unmistakably indicated as in the fruit growing upon the tree. As the cranium manifestly indicates the crowning part of the erect body, so does the relative position of the spinal

column, designate the superior portion of the reclining body. The spinal cord (a prolongation of the brain), extends along the centre of the backbone, sending forth many nerve-branches to all parts. From the numerous processes of the spinal column, the principal muscles of the trunk diverge, while along its anterior surface extend the great thoracic blood-vessels, in front of which lie the heart, liver, spleen, kidneys, viscera, etc., each and every one attached along the mesian line of the dorsum in such a manner that with the trunk prone, they are freely and properly disposed as an apple hanging on its stem. Examination of the surface of the body shows the back rigid, abounding in bony prominences, for the attachment of the many powerful muscles, but we find here a very meagre supply of fat. On the other hand, the anterior surface is rounded, highly elastic, affording no attachment to organs internally, while externally it is spread with an abundant layer of fat which forms an admirable cushion, and non-conductor of dampness, and cold, upon which the body may rest.

We now begin to perceive the physiological

principle that prompts children to lie prone, and to rebel against supineness. In the first position the organs and textures are suspended, and disposed, in a manner favorable to the fulfilment of their respective functions, while in the other confusion prevails, the organs, falling a dead weight upon their attachments, rest inverted upon blood-vessels, nerves, and other textures that should be free from compression. Hence, while lying upon the back normal secretion is perverted, and free circulation of the blood impeded.

We are so accustomed to seeing the quadrupeds reclining prone or semi-prone, that we would regard with surprise and solicitude the reverse posture, and yet reasoning from analogy, to lie upon the back, is scarcely more unnatural in them, than in human beings, for comparative anatomy shows a striking similarity of conformation, and distribution in corresponding structures and blood-vessels in each. Bone, muscle, artery, vein, and gland common to one finds its analogue in the other.

Intimately associated with this phenomenon is another, of which the observer of child life

must take cognizance ; that is, the inborn necessity for frequent shifting of position. After remaining motionless for a time, the young child makes known its strong desire to be moved, and should the attendant comply, and turn the little body to the other side, it is content and will probably resume its slumber. The recognition of this physiological principle, which makes motion an absolute necessity, no doubt underlies the creation of the cradle and similar oscillating contrivances.

This necessity for movement is common throughout the animal kingdom. Everyone knows that prolonged inactivity causes at first a sensation of weariness that soon merges into irksomeness, and finally positive distress, unless the position be changed. The *rationale* of this lies in the law of hypostasis, for the fluids within the body (as those without) gravitate and seek the lowest parts, and this surplus of blood soon arouses sensations of discomfort, that demand relief in change.

This gravitatory process, which constantly pervades the entire body, may be readily demonstrated by allowing the hand to hang motion

less below the heart's level, and watch the increased distention of the surface veins, as well as the deepened hue of the textures, while the sensation is one of fulness and increasing unpleasantness. Now elevate the hand, and note how quickly the swelling of the veins disappears, the tissues blanch, and a sense of relief is experienced. The opinion generally obtains, that the heart's action supplies all needful propulsion for complete circulation of the blood, but this is far from correct. Indeed, at first thought it appears that nature has made very unequal provision for the vascular system, for on one side we have the direct *vis a tergo* afforded by the powerful cardiac muscle, while on the other it seems that the current is not only denied all impelling force, but to the difficulties that beset the return of the blood to the heart and lungs, are superadded the influences of gravitation.

In order to properly acquaint ourselves with the workings of the vascular system, let us for convenience commence at any suitable point and intercept by a free incision, a current of blood on its way to the tissues. Immediately

upon the severing of the canal, a flow of bright crimson fluid appears in jets, which may spurt quite a distance, the interruptions being synchronous with the heart-beats. Analyzing this fluid we find it rich in oxygen and the product of freshly assimilated food, chemically prepared into material suitable for repairing, and up-building, the tissues toward which it is being transported. If we seize the end of the severed tube and pull a little we shall find it quite elastic and tough, while a closer examination shows its walls to be made up of several layers of muscular and fibrous tissue.

This, then, is what we find by severing an *artery*. Suppose now we follow the course of one of these active blood-carriers. Soon the main channel diverges into two; farther on these divisions subdivide, growing smaller, and smaller, as the branches multiply, until the remote destination is reached, when all are lost in a meshwork of ultimate subdivisions called capillaries. These are very delicate tubes, with membranous walls of such fine texture as to favor the passage of liquids through their own substance, to the tissues lying in the inter-

spaces and surrounding these minute ramifications.

As the volume of blood pushes its way through this broad area of tiny tubes, the friction being relatively greater, the movement is proportionately slower, and the heart-throbs becoming less and less perceptible, are finally lost in the capillaries. It is at this ultimate point of division that the tissues receive their food-supply, and give up the waste matter resulting from their wear and tear.

Instead of being lost, like the terminal branches of a tree, these little blood-vessels anastomose, or continue on into a set of similar delicate blood channels, which converge in their course, growing larger and larger as their branches conjoin. If now we sever one of these blood-carriers corresponding in size to the one previously divided on the active side, we shall witness an entirely different result. Instead of the bright and *interrupted* flow, we shall have a sluggish, *continuous* stream of dark or purplish red fluid, that reveals tissue *débris*, and a myriad of broken-down, effete cells. This is blood on its way back to the

great central organ of revitalization,—the lungs. The passivity of the flow makes it apparent that there is no impelling force. If, however, the muscles of the limbs through which the severed vessel passes be exercised, that is, made to relax and contract, the flow is greatly quickened, and if the motions be vigorous the stream increases in rapidity correspondingly.

We have now progressed another step in the important lesson suggested by baby's insistence to be moved, for we have learned that while the function of the arteries is presided over by the powerful cardiac muscle, which like a force-pump impels the blood into the tissues, all the muscles of the body, by their movements, aid in the performance of the function of the veins, and thus force the column of blood toward the heart; for we should explain that the veins are supplied with valves, attached along the inner wall like little pouches, with their mouths looking heartward, consequently the volume of venous blood can move in only the one direction.

Not only does muscular activity quicken the return of the venous blood, but it squeezes the

effete elements out of the tissues, forcing their departure, and hastening them on their way to final elimination. It is apparent that prolonged quietude must result in the engorgement of the capillaries, as the heart incessantly forces the blood into the tissues, which become surcharged with blood and noxious matter, consequently the nerves telegraph the necessities of the situation, and the senses afford a temporary relief by impelling the muscles to exert themselves. If the body is horizontal, the return of the blood is not greatly impeded, and therefore an occasional turning of the body is sufficient. In the erect position, however, greater and more continuous muscular activity is demanded, hence a healthy baby kicks and wriggles incessantly, thus fulfilling Nature's laws. Under the same principle, standing or sitting motionless can (at any stage of life) be endured but for a brief time. A little reflection in this connection will lead us to perceive the Divine wisdom which makes bodily activity incumbent upon all animal life; compliance therewith securing physical and mental well-being, while neglect entails the opposite condition.

Much more might profitably be advanced by showing that the neglect of exercise engenders disease through the collection of noxious matter, and on the other hand, that activity not only averts this evil, but secures a nobler development, made possible through a more perfect assimilation.

We have, then, ample proof that the preference for proneness, evinced by the young, is a compliance with the natural laws or requirements of a healthy body, therefore the appeals for frequent change of position are as purely physiological as expressions of hunger.

Now it is highly important that we make practical application of our knowledge concerning these physiological influences, when dealing with *pathological* conditions, for be it understood that statical influences forever at work within the body, are infinitely more potent for good or ill, when associated with diseased textures. Everyone who has experienced the increase of suffering caused by holding an aching head below the heart's level, or who has allowed a diseased foot or hand to hang, can appreciate, in a measure, the importance of taking into ac-

count the influence of posture when dealing with diseased textures.

With these thoughts fresh in our minds let us contemplate a picture, unfortunately familiar to everyone.

An infant afflicted with cerebral or spinal irritation, stretched upon its back, the sick head rolling from side to side, which not uncommonly hangs over the lap upon which the body rests. The pinched, drawn features, open mouth, partially exposed, upturned eyeballs, cold extremities, clinched thumb, etc., each and all indicate congestion at the base of the brain. The feet, legs, hands, and face are cold, but slip the hand beneath the restless head, or along the spine, and these parts will be found sweltering in heat. In this position the little body is retained, hour after hour—the hyperæmic nerve-centres occupying the most dependent position, suffer greater congestion through gravitatory influences, and the irritated textures of the spine and base of brain, are afflicted still more deeply by the pent-up bodily heat produced by the enforced position of supineness upon a heated pillow, or across the warm lap.

Moreover, as heretofore explained, in this position the visceral organs are inverted, and instead of hanging free upon their attachments, fall a dead weight upon sub-adjacent blood-vessels, obstructing the circulation. It goes without saying that all this evil would be alleviated by simply turning the body prone, and as any mother can testify, the little ones, if able, will express in their own way, appreciation of the relief thus afforded. Furthermore, in the normal (prone) posture, the surface over the diseased tissues is readily accessible, and the suffering may be greatly assuaged, by bathing with tepid water, and by gentle passes of the hand, so that in a little while instead of tingling, sweltering heat, coolness and comfort are secured ; the incessant moanings and oscillations of the head cease, and the restless body is soothed into slumber.

There is another thought must not be overlooked in this connection. We have already perceived that free circulation is indispensable to elimination of noxious matter from the system, as well as for the healthful assimilation of nutriment ingested. When the volume and

quality of the blood have been deteriorated through pathological influences, the life current moves erratically; while it is accelerated in some parts, in others it may be sluggish, this condition being more especially marked in tissues remote from the centre of circulation.

The evidences of deficient capillary activity are always unmistakable; loss of animal heat, lividness or pallor, clamminess of the skin, etc., being the most prominent. For the relief of this condition I know of nothing more effective than the application of the hands of a strong healthy person. Grasp the little limbs, and gently squeeze them, working from below upward, for the twofold purpose of dislodging effete cell products, and vitiated blood, and for the restoration of animal heat. This massage should be exerted gently, yet methodically and thoroughly, each time holding the feet and hands until a glow and warmth supersedes the damp and chill of stagnation. No artificial heat-supplying apparatus will successfully substitute the manipulation of a healthy vigorous hand, for in this manipulating process, there is doubtless not only the benefit of textural

quickenings, but a direct transmission of vital fluid, or animal electricity. No more efficient health-restoring process can be practised, than the one just commended. When all else proves unavailing, its faithful and intelligent application will oftentimes restore the equilibrium of unbalanced vital tissues, and re-establish the feeble life that trembles on the verge of dissolution. So deep and far-reaching is the significance of this question, that it is difficult to confine our remarks to a space so restricted, since there arise before us many allied conditions: however, if the cardinal points are rightly comprehended, the reflective mind will hardly fail to extend the matter to its greater applicability.

CHAPTER III.

INFANT DIET.

THE question of food selection and digestion is of such prime importance in the management of young children, that it is doubtful if any other has received more attention at the hands of physicians. It is a problem by no means easy of solution, so complicated is it with manifold contingencies similar in complexion, but widely divergent in true significance.

Whenever the physical vigor of a child is impaired from an apparent defect in the nutrient processes, the cause is almost invariably attributed to the quality of the food partaken—a very natural deduction, but one far from being uniformly correct; for closer inspection will frequently discover the origin to be some fault of the digestive apparatus, or of some other constitutional defect, instead of faultiness with the ingesta.

This point is of the greatest importance, and one to be borne earnestly in mind, since neglect of it is liable to work irremediable mischief, and cases primarily amenable to the application of suitable measures, are merged into hopeless conditions. We desire, therefore, to emphasize this feature at the outset, because of the prevailing disposition to expend all thought and effort upon the selection of food to the neglect of other essentials more deeply affecting the root of the matter.

To enable the reader to interpret from a rational standpoint, the numerous phases presented, it is necessary to refer briefly to the chief mechanical and chemical appliances, for the fulfilment of the process of alimentation, within the human economy, for it is impossible to speak intelligently of infant dietetics without a previous knowledge of the working of the intricate machinery employed by nature in the metamorphosis of food into pabulum fit for the upbuilding of these delicately organized beings.

In the first place, let us consider the extent and conformation of the digestive apparatus. Beginning at the lips it extends throughout the

entire length of the alimentary canal, and if its convolutions were unfolded, would equal six times the length of the entire body. It is lined with mucous membrane exceeding in extent that of the skin covering the body. This membrane is richly supplied with minute glands, both for the absorption of pabulum when properly emulsified, and the throwing out of chemical juices which attack, break down, and digest the food. In the beginning, then, we point to the fact that this extensive mucous tract abounding in complex gland-structure, affords a most favorable field for the origin and development of disease.

Various constrictions and expansions divide the alimentary canal into several divisions or cavities, each one of which performs a separate office.

It is not desirable, in this essay, to attempt a detailed enumeration of all the minutiae of this intricate apparatus; therefore we will briefly scan the principal features that are necessary to a practical understanding of our subject.

We begin by noting the physiological peculiarities of the mouth. The intestinal organs of

an infant are as incomplete in their development as the more visible textures, and like these tangible structures, the hidden ones are constantly undergoing changes, in their progression toward maturity.

There are numerous glands in the infant body that remain latent, until the allotted period of awakening; as for instance, the lachrymal glands may afford no tears until several weeks have passed, and so with the eyes, which may be bright and staring, yet the sense of sight does not immediately appear. Were it relevant to our subject, we could cite numerous illustrations of this provident law (gradual development) which continues throughout adolescence. In the development of the mouth is found a notable exemplification of this physiological principle. During the earlier months the mouth is a passive organ and has scarcely more to do with digestion than the hand; is, in fact, simply a means of conveyance. At the end of the first three or four months, there appear unmistakable evidences of a change in the secretions, and baby is said to *drool*, and we shall now show that this phenomenon marks an

important epoch in the growth of the digestive process. This increase in the saliva follows the functional awakening of three pairs of glands (parotid, sub-maxillary, and sub-lingual) which hitherto have lain dormant, but now pour forth a transparent viscid secretion, giving an alkaline reaction, and possessing the power of converting starchy matter into glucose, thereby reducing it to a state fit for assimilation, for without being first changed into glucose or sugar, starchy or farinaceous matter cannot enter the system through the lacteal absorbents, but must traverse the alimentary canal, unchanged save by maceration and fermentation, in which condition it would constitute a pernicious element and give rise to severe and painful intestinal irritation.

The fact that nature's food for infants contains not a trace of starch, taken in connection with the absence of the secretion necessary for its assimilation, is, to those who reason, sufficient evidence of its unsuitableness during this early period. On the other hand, *subsequent* to the flow of saliva, an addition of properly prepared starchy matter is often de-

manded for the better fulfilment of physical requirements.

It is certain that about this time the bone-formative process is greatly accelerated,—(made evident in dentition,) and the flow of saliva reveals nature's care for the wants of the system, for thereby is made possible the addition to the regimen, of ingredients rich in bone food, in the form of *cerealia*, which, to meet the wants of the system, must be prepared from the whole grain, and not from the finer product merely, which is deficient in phosphates. Should it be deemed advisable at this time to give broths, let them be made from bones and joints, rather than from choice bits of muscle, for the reason that bones and cartilage are richer in phosphates.

We next consider the stomach and its function. The contour of the infant stomach differs from that of the same organ in the adult. Owing to the greater relative size of the liver in early life, the stomach is pushed considerably beyond the mesian line, toward the left. It rests obliquely, with the inlet at its cardiac portion and the outlet at the right or hepatic

portion, and for this reason, a child will, after a full meal, rest and digest its food better if placed on its right side.

In early life the stomach is less pouched, and more tubular in form than in the adult, which conformation renders vomiting quite easy, being little more than simple regurgitation, a most beneficent provision of nature, as it constitutes a safeguard by which the little ones escape the penalties of ill-regulated over-feeding. They would indeed be in a pitiable plight if the superfluous food crowded into the stomach could not be thus easily ejected.

If the inner surface of the stomach be examined with a lens it will be found to exhibit a remarkable cribriform appearance, the tiny crypts being the orifices of glands which lie in great numbers imbedded in the mucous wall, from which oozes a thin acid fluid called *gastric juice*, the acidity of which is due to the presence of free hydrochloric acid. In addition to this, the gastric juice contains a small proportion of an essential ingredient called *pepsin*, which substance plays in the digestion of milk, meat, and other albuminous products a corresponding part to

that of *ptyalin* in the saliva, in the assimilation of starchy matter.

So then the special function of the stomach is determined by the properties of the juice it secretes, which has the power of dissolving *proteids* (albumen) and converting them into *peptone*, a product that readily passes through those membranes that separate the contents of the intestine from the vital fluids. The action of gastric juice may be demonstrated by placing the white of an egg in a bladder, and suspending it in water; we find in time that no interchange is taking place between the contents of the bladder and the surrounding liquid. Now place in the bladder with the albumen, a proper quantity of pure gastric juice, and immediately there is a change, or a process termed *osmosis* is set up, that is, the contents of the bladder pass through the membrane, and mingle with the water. Furthermore, after the white of eggs, or any proteid, has been changed to peptone by the action of gastric juice, coagulation is not effected by heat.

The part performed by the stomach in assimilation, is definitely limited to the digestion of

albuminous compounds, and does not include fats or starch. On the other hand the digestion of starch, which has been only partial in the mouth, is at once arrested in the stomach, and not resumed until it escapes thence and mingles with the alkaline secretion of the *pancreas*, a gland we are about to consider.

We have now learned the following important principles connected with the nutrition of the body, viz.: Proteids, (casein, meat, white of eggs, etc.) are fitted for absorption by the action of the gastric juice, which is secreted from earliest infancy. Amyloids (starch, dextrin, and farinacea) are acted upon only by the saliva, which is not secreted until the child is several months old.

It is well for humanity that digestion is not restricted to the mouth and stomach. If starchy food was slowly and thoroughly masticated, and remained in the mouth a sufficient length of time, it might enter the stomach in the form of glucose ready for absorption, but food is seldom retained in the mouth long enough to permit the organ to exert its digestive function to its full capacity. This contingency has been

anticipated and provided for by nature, in a large racemose gland, situated immediately beneath the stomach, and which pours its secretion into the intestinal canal, just below its junction with this organ. This is the *pancreas*, in the lower animals called the "sweetbread," and so closely does its function resemble that of the salivary glands, that it is sometimes designated "the salivary gland of the abdomen." The pancreatic fluid, like the saliva, is alkaline, and besides being greater in quantity, has stronger digestive power; furthermore, its action is not restricted to amyloids, but includes proteids, so that fortunately it possesses the double capacity of completing the work begun by both salivary and gastric glands.

It has been suggested that the secretion of the pancreas begins as early as that of the stomach, which theory, if tenable, would justify the use of starchy food from the beginning, but recent physiological experiments have demonstrated that the function of the pancreas is established even a trifle *later* than that of the glands of the mouth.

The researches of the physiologist Korowin,

of Russia, has placed the question beyond controversy.

At the same point where the intestinal wall is pierced by the pancreatic duct, the bile-duct enters. Without discussing the minute anatomy of the liver, we will state that it fulfils the office of a vast percolator for the blood, and that the peculiar extract thus supplied (the bile) is used in the emulsifying of fat-globules, that is, the breaking down and ultimate division of fat-globules into particles sufficiently minute to secure their transudation into the system. Bile is also said to prevent fermentation, and to maintain solvency of the fæces.

Having thus briefly surveyed the chief characteristics of the infantile digestive apparatus, let us now turn to the selection and best manner of administering the food. It is a foregone conclusion that the best diet for an infant is that which nature supplies from the human breast, but numerous exigencies may occur to render an artificial substitute the only alternative.

Before taking up the subject of artificial feeding, we will give a passing thought to the

natural method, for it is by no means exceptional to find in the matter of nursing, the most favorable conditions perverted through pernicious customs. Unquestionably the young child's greatest misfortune lies in the over-solicitude of the mother regarding bounty in feeding. The thriving of her nursling is her greatest delight; hence the short-sighted belief that the amount of food ingested secures corresponding corporal growth, underlies her assiduous endeavor to guard against even momentary hunger, and, to the infant's disaster, it is crammed day and night. Should the over-worked stomach show resentment, and plead for a respite by ejecting an unwelcome amount, the imprudent mother, instead of heeding nature's protest, hastens to make good the loss by forcing a fresh supply into the much-abused organ. It is not surprising that these victims of misdirected kindness, sooner or later, develop the baleful consequences thereof—suffer the tortures of dyspepsia, and intestinal affections, and while surfeited with plenty, actually perish from inanition.

The fact cannot be too strongly accentuated,

that the reward for the needless labor, and over-watchfulness, with which parents so commonly afflict themselves, quite often appears in the form of puny irritable children whose sufferings are perpetuated by the very means employed for their alleviation. The injudicious ways of parents are nowhere more clearly shown, than in the hurtful habit of night-feeding. The world is filled to-day with invalided peevish children, and broken-down disheartened mothers, made so by this mischief-working habit. That this will be discredited and met with manifold objections I am fully aware, but nevertheless it is no random statement, but a veritable fact, supported by long and varied practical observation.

The digestive organs, in common with the brain and other parts of the body, require periods of rest, and when this requirement is disregarded, and incessant activity thrust upon them, the penalty is sure and severe. The plea always advanced in behalf of tender age is puerile, as a moment's reflection will show. The power of habit is proverbial, but nowhere is it more strongly displayed than in matters

pertaining to the sleep of children. We rarely find a child who has not some peculiar charm by which sleep is wooed. It may be the corner of an old blanket, a dilapidated toy which the little fingers grasp tightly, or, what is too common, a repulsive rubber nipple between the lips. Let the fondling be never so absurd, it constitutes a magical bond which, if severed banishes sleep, and for the time fills the young heart with inconsolable grief. Of course the lamentation associated with hunger is most distressing for the mother to hear, but is in reality of no more serious moment to the child than the thwarting of any caprice, providing it is only a matter of a few hours' abstinence. We grant that the sense of hunger, intensified by excitement and temper, is unquestionably a genuine misery, but it is only temporary and harmless, while the ultimate benefits secured are incalculable. In truth infants are amenable to influences applicable to persons of riper years. The adult, accustomed to a midnight lunch, will waken promptly at the usual hour expectant, and when the sensations of hunger which have aroused him are unappeased, they

are not easily endured. When, however, these cravings are resolutely denied, their poignancy gradually diminishes with each successive recurrence, until they finally cease to return.

In like manner,—despite the whimsical notions of opinionated nurses and over-anxious mothers, the same principle applied to the very *earliest* childhood, is absolutely safe, appropriate and successful. It would be fortunate, indeed, for all interested, were women governed less by their impulses and sympathy, and were more willing to give heed to the precepts sustained by logical deductions. The physician may present his philosophy (the outgrowth of years of study and observation) in the most painstaking manner, and he will probably be listened to complacently with silent though ill-concealed dissent, or, what is more common, his most cogent arguments will be promptly set aside by the exultant citation of one or more exceptional cases which to the frivolous disputant seems enough to controvert all formulated views. The fact that such and such a child, by virtue of superior physical endowment, has escaped the evils of mismanagement, does not

cancel the truth that similar ill-treatment has blighted a legion of tender lives, and brought misery to many more who barely struggled through the needless suffering thrust upon them. So then to the mother who flippantly declares that she has always fed her child day and night, untrammelled by any logical method, and that without encountering evil consequences, we have only to say, "You have been exceptionally fortunate in escaping the retribution suffered by the majority essaying a similar course."

Notwithstanding popular customs and doctrines to the contrary, we reassert that the young mother may with perfect safety inaugurate her infant's life with total abstinence from all food during the night, thus sparing herself untold trouble and pain in the future, and securing for her nursling the benefits which unbroken slumber affords, and more than all, comparative immunity from dyspepsia. During the day, let stated periods be established and strictly adhered to, and it is well that the intervals be reasonably long. An infant will thrive as well or even better when fed every

three or four hours regularly, than if fed more frequently.

Besides the benefit thereby conferred upon the child, is the advantage such a system secures the mother, according her liberty for the performance of any other duties she may have. Let the mother bear in mind, that the noisy demonstrations of her baby are by no means a sure indication that food is required, for the little creature may manifest all the symptoms of hunger, while suffering from gastric irritation due to recent over-feeding. Likewise when the food is ejected, it is folly to immediately set about making good its loss by refeeding, since the stomach has made known in the plainest way that the task imposed upon it is for the time too heavy, and it seeks a respite. Let this motto be engraved upon the lintel of every nursery: "For each child that famishes, a thousand suffer from repletion."

We return now to a consideration of the welfare of those unfortunates who are denied their natural rights, whose existence is only made possible through some artificial substitute.

Probably no other subject in the realm of medicine deserves more earnest thought than the one now before us, and one may justly add, probably none other has been more shabbily treated. This may seem a most unwarrantable statement in the face of the vast array of artificial foods and sucking-bottles, that glut the market, but it is in these manifold devices is found the strongest justification for the alleged assertion.

Granting the nursing-bottle to be the creation of a benevolent endeavor to approach as near as possible to nature's methods, its aim has woefully miscarried, for beyond contradiction its use has entailed untold misery, and strewn the earth with numberless little graves. If every form of sucking-bottle could be forever banished from among nursery appurtenances, and cast into the depths of the sea, it would confer the greatest possible boon upon coming generations.

About ten years ago I called the attention of the profession to the fact that the white rubber material used for the nipples of the nursing-bottle, contained carbonate of lead in sufficient

quantity to poison the system, and in some instances to develop the familiar toxic symptoms. This wrong was easily disposed of by the substitution of pure black rubber. At that time I regarded the bottle as a necessary evil, but the detection of one noxious element led to the discovery of so many, that taken as a whole it showed itself such an execrable nuisance that for years I have opposed its use unqualifiedly, and when the faithful co-operation of mothers has been secured the results have invariably proved highly satisfactory.

It is in the faulty manner of *using* that the greatest danger is found, and so long as the average nurse or mother holds her personal comfort of paramount importance, just so long will it be impossible to permit with safety the use of the present style of nursing-bottle. Probably everyone is familiar with the sight of a child dozing in its carriage or crib, with the nipple of its constant companion—the bottle—between its lips, from which it sucks automatically. Not infrequently the bottle is empty, and then the child imbibes only vitiated air. It is quite usual for those having the care

of bottle-fed babies, to stifle all frettings by thrusting the vile nipple of the empty or partially empty bottle, into the mouth of the helpless unfortunate. Thus from the force of an odious habit do nurslings become so strongly wedded to this detestable device, that its constant presence seems indispensable even to the securing of sleep, while any attempt at removal breaks the fitful slumber. Is it any wonder that the effects of this practice are manifested sooner or later in the waxy complexion, bloodless ears and lips, heavy eyes, with blue margins, and fitful sleep, while the capricious appetite, frequent ejections, and other intestinal disturbances, combine to complete the doleful picture of a "sucking-bottle dyspeptic."

I will not say that there are never extenuating conditions which may render the use of the nursing-bottle excusable, although I have never met such except where a child already strongly attached to its use is suffering from some serious illness, in which dilemma we must hedge with discretion until a more favorable time for reform. I will also concede that with a properly constructed bottle, and scrupulous care

exercised in the matter of cleanliness, its use may be in a measure unobjectionable.

APPROVED FORM OF NURSING-BOTTLE.

The bottle should be constructed as follows: Oval in form, with the base on one side; two apertures, one for filling on the upper side, and the other at the end for the attachment of the nipple. No rubber should be in use except the nipple, which is of pure desulphuretted rubber. The neck of the flask is so formed that the nipple is easily adjusted and detached. In the stopper, which closes the larger opening on the side, let there be a small vent-hole for the admission of air. A bottle thus constructed necessitates its being held in the hand of the nurse, who is obliged to place her finger over the vent-hole to regulate the admission of air and out-flow of milk. As soon as the meal is finished, the residue (if any) is thrown away, the nipple and side stopper detached, everything rinsed thoroughly in hot water, and placed in a dish of cold water until next required. Unless every above condition be faithfully complied with, we should rigidly enforce the entire abandonment

of the bottle in every form, which is always the wiser course.

TEACHING INFANTS TO DRINK.

Whenever an infant is to be nourished by alien food, it should be taught at once to feed directly from a spoon or cup, and it is gratifying to note with what readiness the little creature will conform to this method, which is, in fact, as readily established as the objectionable one of bottle-feeding, and in the maintenance of health its advantages are beyond comparison.

When the bottle is used a vigorous child will almost inevitably continue feeding beyond actual requirement, providing the allowance is not exhausted, and this habitual overloading of the stomach sooner or later develops gastric affections. Moreover, the earlier symptoms of gastro-intestinal irritation quite commonly simulate hunger, consequently the mischief is aggravated by a more frequent recourse to the bottle.

The facts are so obvious that an extended explanation of the manner in which the custom of feeding from a spoon or open cup averts the evils engendered by bottle-feeding is unneces-

sary. Those predisposed to question the feasibility of this expedient will have their doubts speedily dispelled by a faithful trial. I am aware that certain eminent authorities hold the theory that the mechanical process of sucking involves a physiological principle in the matter of exciting a freer flow of saliva etc.; but while the assumption seems plausible enough, a closer examination reveals its weakness, for at the time when the bottle seems most necessary the salivary glands are inoperative; besides, natural conditions show that the process of suction can be as safely dispensed with in childhood as in later life.

ARTIFICIAL FOOD.

We come now to the *selection* of food for infants. The standard by which all artificial products are gauged, is supplied by analysis of breast milk. So simple is the combination of the natural supply, that casually its imitation seems to be within the easy reach of chemistry, consequently many have essayed to compound an article the virtues of which should vie with those of the natural food.

We need not undertake a review of the many brands of infant food manufactured, for such a task would hardly prove advantageous. We are fully justified in setting aside the bulk of colorable laudations with which these preparations are tricked out; for, notwithstanding the fact that the ingredients employed tally closely with those found in nature's supply, the results secured in their using are frequently disappointing. It is certain that the most accurate chemical experimentation can never produce an article more than approximately like, for human skill has never grasped those subtle properties which emanate only from the hidden springs of life. It is only those deficient in physiological knowledge, and who reason merely from the surface, who can honestly believe they have successfully emulated nature's prerogative. It is but right to admit that all cereal foods are not to be discarded unqualifiedly, for there arise conditions where the appropriateness of some one of them will exceed that of any other known food, as we shall have occasion to explain more fully when dealing with those conditions occurring later in childhood,

or about the period of dentition. In earlier life, however, we will find it more prudent to live closer to the heart of ever-provident nature, whose resources, if wisely apprehended, are adequate to the supply of every ordinary want. We may be sure that in the matter of infant diet, as in every contingency of life, we will find the best things lie close at hand, if we will only perceive and contentedly appropriate them. True, we may be called upon to make slight modifications, but these are always simple when made in harmony with, and subservient to, nature's requirements.

COW'S MILK.

Beyond question the most natural substitute for human milk is that obtained from a healthy, properly fed young cow. The ingredients constituting cow's milk are so closely allied to breast milk and so simple that any slight discrepancy in excess, or deficiency in any of its constituents which analysis discloses, can be readily adjusted. To aid us in presenting this subject more clearly, we will insert in tabulated form the analyses of both human and cow's

milk, so that the relative proportion of the chief constituents common to each may be seen at a glance, 1,000 being taken as the sum total :

	Human milk.	Cow's milk.
Water	900.00	875.00
Milk sugar.....	56.00	44.00
Casein.....	11.00	48.00
Butter.....	32.00	33.00
Lactate of soda.....	00.10	00.00
Calcium phosphate	00.30	00.25
Sodium.....	00.25	00.00
Potassium chloride.....	00.175	00.15
Sodium chloride	00.30	00.24
Total.....	1000.125	1000.64

In the substitution of cow's for breast milk it is necessary to add several modifying ingredients, and as every mother should act intelligently in the matter, it is well to give a moment's attention to the study and balancing of the above comparative analysis. It will be seen that water preponderates largely in both fluids, that is, a thousand drops of human milk contain nine hundred of water, while the same quantity of cow's milk contains only twenty-five less; therefore to make the two equal in water, only half a teaspoonful of this diluent

need be added to two ounces of cow's milk. On looking down the columns, however, we find a much greater discrepancy in two most important ingredients, casein and butter. These two elements represent the nutritive property of the milk—the casein, or cheese-producing element, being the part of the milk from which curds are formed. Now it is apparent that to make the average good between these two ingredients, we must add a more liberal supply of water, for should this matter be overlooked and the cow's milk be given undiluted to an infant, the casein precipitates and forms into a tough curd, which greatly retards digestion, is very likely to ferment and fill the digestive tract with gas and an acrid acid, which may cause severe suffering. Without entering into definite computation, we will roughly estimate that the addition of from one-fourth to one-third the amount of water to the cow's milk will secure a gravity approximately correct in the matter of casein and butter; but further inspection shows that several other ingredients (milk sugar, sodium chloride, calcium phosphate, etc.) are by this dilution re-

duced considerably below the normal standard, as shown in the opposite column, which must be rectified.

It is so generally understood that casein and butter represent the chief nutritive constituents, that one is apt to forget the fact that there are other ingredients playing important parts in securing all the requisites to normal alimentation and the complete development of all the tissues. We must bear in mind that in a matter requiring such delicate adjustment, a slight divergence will often work deeper injury than we would at a glance suspect, especially when the oft-repeated fault extends over a long period.

Sugar performs an essential part in the transformation of casein into peptones. It is an efficient solvent, and aids in the formation of lactic acid, thus accelerating the digestion of casein. When milk is deficient in this ingredient, digestion is sluggish, and curds are apt to form, the peristalsis of the intestine is lessened and constipation favored. Furthermore, the heat-producing power of sugar is next to that of fat, and in its passage through the system it ulti-

mately serves the same purpose. By referring to the above tables it will be seen that cow's milk normally possesses a lesser proportion of sugar, and by dilution this discrepancy is increased, consequently we make good the deficit by adding a proper amount of pure milk sugar to the meal, graduating the quantity as may be suggested by present indications. Sometimes, when ordinary cane-sugar is used, the buccal secretion becomes acrid, and gives rise to sore mouth, which necessitates its discontinuance, in which case extract of malt may be substituted for a time. When increased laxness of the bowel is desired, use common brown sugar, or ordinary molasses, instead of the milk sugar.

We have next to give a moment's attention to several inorganic constituents that appear in both tables, viz. : salts of sodium, potassium, calcium, etc., found, it is true, in minute quantities, but physiology teaches that the presence of each, and everyone, is indispensable to the proper nutrition of the animal economy, which if deprived of anyone of them for a protracted period, would inevitably suffer profoundly.

Although existing in such insignificant proportions yet each salt fills an important and distinct office in the metamorphosis of food stuffs into tissue material, and at the same time assists in the elimination of effete matter from the system. Chloride of sodium, or common table-salt is found in every texture throughout the body, and as it is also found in all the excreta it is evident that this waste must be made good through ingestion. Let us hastily trace the action of this agent within the body. In the first place, as soon as it enters the stomach it undergoes a change, its decomposition giving out hydrochloric acid (an essential in digestion), and in addition to stimulating the gastric glands, it attacks and dissolves the delicate albuminous wall that forms the milk globule, acts as a solvent to all albuminous matter, and prevents the formation of hard curds. It then passes on to the liver, where, in the form of chloride of sodium, it quickens the function of this great gland. In short, salt acts everywhere in the system as an efficient solvent, its presence holding in solution those materials that are in a state of transition, thereby facilitating their transudation, and se-

curing their diffusion throughout the body. A marked deficiency of salt in the secretions, would incur a blocking up of the tiny sluice-ways of the system, the intestinal villi would become choked so that the food pabulum could not pass through the intestinal walls, the little streams conveying the fresh material for building up cell structures would run sluggishly, and the delicate excretories become clogged with tissue *débris*.

On the other hand, it must be understood that the quantity, of salt introduced into the system should be limited to actual requirements, for an excess will induce an abnormal state by unduly stimulating the excretories, and incur destructive melting down and premature casting out of tissue matter; hence through an excess we may have exhaustive diarrhœas, inordinate voiding of the urine, inducing a condition of marked general prostration. A pinch of salt averaging in size from an apple-seed to twice as much, added to each meal, is sufficient.

Glancing again at the analysis we perceive that calcium phosphate (phosphate of lime) is less in cow's milk than nature's requirement

for infant diet, and of course this deficiency is increased in proportion to the amount of diluent added. This is an exceedingly important matter, as it seriously affects the well-being of infants fed wholly upon cow's milk. Everyone familiar with the rudiments of physiology will remember that the phosphatic salts contribute firmness, and strength, to the osseous textures, and unless these be supplied to the system in the proper manner, the bones degenerate and become soft, often to such a degree as to allow the limbs to twist out of shape, producing that distorted appearance peculiar to rickets. Given a number of children reared on cow's milk, and a corresponding number fed on breast milk, it will be found that with the former the appearance of the teeth is considerably delayed, a fact too significant to require comment.

Besides the delay in the appearance of the teeth there are other characteristic indications of a deficit in the bone-forming elements. The child refuses to make timely efforts of locomotion; the fontanelles, or open spaces in the skull, are unnaturally slow in filling, and the flesh is soft and unhealthy in complexion.

When, therefore, we have to deal with a child who, without other evident reason pines, is anæmic, and at the same time shows a backwardness or lack in the teeth, and bone structure, we must supply means, whereby an increase of phosphates, will be secured to the system. This can often be accomplished by simply changing to another kind of food. The fact that the child is at the breast is by no means a guarantee that its food is normal, for, as already intimated, a constitutional defect on the part of mother or nurse, oftentimes lies at the root of baby's calamity. The vocation of the mother should always be taken into account, for if her vital force be expended upon exhaustive brain work, her milk will probably be lacking in the phosphatic element. The same result will follow a diet from which coarse food is excluded, and which is composed largely of fruits and amyloids (starch, sugar, etc.). Neither is the physical appearance of a nurse a reliable indication that her breast secretion is correspondingly rich or impoverished, for often the most robust physiqués yield depraved milk, and *vice versa*. As the combined physical and mental

conditions must be taken into account, before a safe conclusion obtains, it is always prudent to refer the matter to a skilful physician.

It is quite possible for the mother to correct this deficit by instituting the appropriate hygienic measure, as, for instance, the eating of soups made from bony meat, bread and gruels made from the meal of entire cereals, clam-broth, fish, etc., and diminishing the amount of fruits and starchy food. Should these measures be impracticable from inability on her part to conform to the restricted regimen, and the employment of a healthy wet-nurse be impossible, a change to cow's milk will be the only alternative and may prove efficacious. Should the condition appear at a time when the child is already living upon cow's milk, we must make suitable investigations, or perhaps obtain milk from some other source. Providing the milk agrees in every other way, and the animal is apparently in a healthy condition, the difficulty may be overcome without change, simply by mashing the cow once a day with bran, into which a spoonful of ground bone is stirred. It is a fact familiar to farmers that cows often evince a crav-

ing for bones, which found they will gnaw and lick ravenously. Furthermore, if this craving is not gratified, they develop an unhealthy condition, and if in this state they bear young, the calves are puny and rickety. We should surely from these facts be able to draw valuable deductions. Of course this method of enriching the milk is only feasible when all the conditions are under personal superintendence. In the majority of cases, the only alternative will be the administration in minute doses, of some one of the well-known pharmaceutical preparations of phosphates.

Before passing to our next consideration I must insist upon a careful supervision of the *influences* surrounding the cow. It is generally understood that the mental as well as physical condition of a mother, is reflected upon the infant at her breast; but so remote seems the field from the nursery, that it is seldom taken into consideration, that a similar relationship may exist between the young mammifer in the nursery and its quadruped foster-mother.

It is a truth needing no argument with any experienced nurse, that a child may be either

slowly, or suddenly, poisoned by milk from a cow unhappily conditioned or imprudently fed. A mess of cabbage leaves, green fruit, or other like substance, may convey to the lacteal secretion a virulent ferment, which will give rise to severe gastric irritation. Instances are not rare in which the grief-poisoned milk of cows recently bereft of their young, has caused marked physical disturbances in children to whom it has been fed.

In view of these possibilities it is incumbent upon parents to faithfully superintend the surroundings of the quadrupeds supplying the food for their children, since neglect of this may be the cause of much suffering. Milk for the nursery should never be obtained from dairies where there is a suspicion of swill feeding, or where the animals are subjected to undue hardships, such as long drives which may overheat the blood, or where they are penned up in illy ventilated stables.

Finally, we have only to allude to the necessity of guarding against the adulterated article sold as cow's milk, and here the lactometer is indispensable. If the specific gravity is below

1.026 it shows a free dilution; 1.032 is the normal standard.

CONDENSED MILK.

If it be true that many American manufactories procure their material from swill-fed cows, stabled most filthily, the foreign product is far preferable, especially that which is gathered from the rich pastures of Switzerland and Bavaria, and where the manufacture is under governmental supervision. When properly prepared, refined cane sugar only is added.* The mixture is evaporated in vacuo, to requisite density, run into tin cans and hermetically sealed. The large amount of sugar (30 to 40 per cent. in the can) is the chief objection.

It is generally estimated that one pint of condensed milk to twenty-five of boiling water will give a material corresponding in its nutritive properties to breast milk, and it is true that the majority of young children seem to thrive upon this preparation. Although plump to

* Some brands contain starch and flour, and when thus adulterated should be banished from the nursery. The genuine Swiss brands (not Anglo-Swiss) are believed to be free from starch.

excess, still the flesh lacks firmness and looks blanched. Analysis of a specimen of this attenuated mixture reveals a notable deficiency in the two principal ingredients (fat and casein), therefore if we would bring it up to normal standard we should add from one to two teaspoonfuls of fresh cream to every half-pint of the composition, which will make an excellent substitute for the cow's milk when the child suffers from the formation of curds, as there is no precipitation of coagula from this condensed-milk preparation. The following mixture will prove highly satisfactory in the majority of instances. To twenty teaspoonfuls of hot water add of fresh cream and Swiss condensed milk, one teaspoonful each ; of lime-water, four teaspoonfuls ; common salt, a tiny pinch. Mix by stirring gently, and, when cool feed from the cup. As the sugar used in the manufacture of condensed milk is from the cane or vegetable, it may be unavailable for some cases, especially where an intolerance of sweets exists as a family idiosyncrasy. In other cases the preponderance of vegetable sugar induces intestinal catarrhs, and in rare instances skin erup-

tion. When from any of the usual opposing conditions, singly or combined, the use of the cow's and condensed milk preparations is interdicted, we have still left another expedient of preparing a food made from cream, sugar of milk, and water, with a modicum of cow's milk. With a very little care we are in this way enabled to secure a preparation which quite accurately tallies with breast milk. The ingredients, with the relative proportions, are as follows :

Fresh Cream.....	2	tablespoonfuls.
Cow's Milk.....	1	tablespoonful.
Lime-water	2	tablespoonfuls.
Warm Water.....	3	“ “

in which is dissolved

Milk Sugar	1	full teaspoonful.
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Occupy about five minutes in the warming (never boil), stirring gently meanwhile; add a very small pinch of salt, and feed from a cup.

We are indebted for this excellent formula to the little work of Dr. Arthur V. Meigs on "Milk Analysis and Infant Feeding." We take the liberty of quoting the following.

“The easiest way to prepare and use the food is as follows: There must be obtained from a reliable druggist, packages of pure milk sugar, containing seventeen and three-quarters ($17\frac{3}{4}$) drachms each. The contents of one package is to be dissolved in a pint of water, and it is best to have a bottle which will contain just one pint, as then there is no need for further measuring. The contents of one of the sugar packages is put into the bottle, and when filled with water the sugar soon dissolves, and it is ready for use. The dry sugar keeps indefinitely, but after it is once dissolved it sours if kept more than a day or two in warm weather; it is understood, therefore, that the sugar water must be kept in a cool place, and if it should at any time become sour, which is easily discovered if it is smelled and tasted, it should be thrown out, and after the bottle has been carefully washed with boiling water the contents of a fresh package dissolved. A milkman must be found who will serve good milk and cream fresh every day. By good milk is meant ordinary milk, such as is easily procured in most cities, and not rich Jersey milk; and in the

same way the cream should be such as is ordinarily used in tea and coffee, and not the very rich cream of fancy cattle. The reason that ordinary milk and cream are recommended is because they are within the reach of almost every one, and not because they are any better than the rich milk of high bred stock. If Jersey milk was to be used, it would be necessary to analyze specimens, and then make the necessary calculations as to how to dilute it to obtain the desired relative proportions of the proximate principles. When the child is to be fed, the nurse should mix together two (2) tablespoonfuls of cream, one (1) of milk, two (2) of lime-water, and three (3) of the sugar water, and then, as soon as the mixture has been warmed, it may be poured into the bottle and the food is ready for use. If the infant is healthy this quantity will not satisfy it after the first few weeks, and then double the quantity must be prepared for each feeding. Twice as many tablespoonfuls of each of the ingredients must be mixed together, making sixteen tablespoonfuls (about half a pint) in all.

“ This food is not given any stronger until the

child is eight or nine months old, at least; but if the infant is a healthy one, it may take as much of it as it wants, but always of the same strength. A robust infant will often take three pints, or even more, in the twenty-four hours."

From the same work is the subjoined table, showing the relative proportions of the chief ingredients of human and cow's milk; also of the artificial food above described, and condensed milk diluted, one part to twenty-four of water, which is the strength ordinarily employed. The instructive features of this exhibit are, 1st, the close correspondence between breast milk and the "artificial food." 2. The excess of casein in cow's milk over human. 3. The deficiency of fat, as well as casein, shown in the condensed-milk dilution. These points of variance separately and combined are highly suggestive without further elaboration.

	Human milk.	Cow's milk.	Artificial food.	Condensed milk, 1 to 24.
Water.....	87.163	88.549	87.639	92.673
Fat.....	4.283	3.310	4.765	1.095
Casein.....	1.046	2.792	1.115	.868
Sugar.....	7.407	4.898	6.264	5.206
Ash.....	.101	.451	.217	.158
	<hr/>	<hr/>	<hr/>	<hr/>
	100.000	100.000	100.000	100.000

FARINACEOUS PREPARATIONS.

The list of artificial food compounds on the market, is long and ever increasing, and as this work cannot include an exhaustive treatise upon this question, no attempt will be made to particularize. The majority of physicians, as well as mothers, have usually some preferred article which they unqualifiedly commend upon every possible occasion. Reason suggests that the favorite food should be the one that openly avows its method of preparation, and discloses a purpose to comply with the laws of assimilation as revealed in physiology; but these preparations must not be so elaborate as to be beyond ordinary intelligence, and the ingredients should be simple and easy of modification, since there can be no sovereign preparation which singly meets the wants of the ever-varying conditions that present themselves in the infant economy.

The requirements of nature are so simple, when rightly understood, that ordinarily they can be readily complied with. It is always prudent to distrust every brand that displays an

elaborate formula, or boasts of proprietary merits superior to all other allied products. No food compound should receive a moment's consideration that does not afford a plain official statement of its ingredients, with their relative proportions and method of preparation. When this is supplied, and a comprehension of the laws of nutrition obtains, it renders wordy attestations and worthless testimonials unnecessary.

It is impossible to reconcile the inconsistencies encountered in the current literature devoted to rearing of infants, or in the practices of many educated physicians. In the beginning of this chapter we explained the danger of feeding young children with farinaceous food, and yet, in defiance of obvious laws, we find many practitioners recommending for *infant* diet such articles as "Gerber's Milk Food," which is made of condensed milk and cooked flour; or "Nestle's Milk Food," a similar preparation produced by mixing together milk condensed to a powder and the meal of entire wheat kernels. Conceded that these as well as kindred foods are excellent preparations

subsequent to salivation, but the recommendation of their earlier use is evidence of thoughtlessness or ignorance. Let every mother understand that, despite all statements to the contrary, an infant will perish as inevitably upon an *exclusive* diet of starch foods as if kept on a regimen of saw-dust, no matter how delicately or carefully they may be prepared.

True, there are many little ones with whose food farinaceous ingredients are mixed, before the period designated by nature, who endure the transgression without serious consequences. So also do the savages, who mix finely powdered woods and barks with their honey before eating it; and these practices are on a par so far as philosophy is concerned. The fortunate cases in which the constitution seems to ignore or triumph over the violation of all physiological principles are of course in the minority.

Before leaving this subject a word should be said in reference to the relative properties of the cereals commonly employed in the preparation of food for children. We cannot do better than to borrow a few paragraphs from Dr.

Jacobi's excellent monograph, "Infant Diet." On page 81 he says, speaking of cereals: "There are a few only of which I make any use in the feeding of infants. To justify my selection, I must, although I have carefully avoided the quotation of figures and statistics, beg your permission for the following, which contain per mille the proportions of the constituents in a number of articles:

Albuminous substances.—In wheat, 135; barley, 123; rye, 107; oat-meal, 90; Indian corn, 79; rice, 51.

Starch.—In rice, 823; Indian corn, 637; wheat, 569; rye, 555; oat-meal, 503; barley, 483.

Fat.—Indian corn, 48; oat-meal, 40; barley, rye, wheat, rice, but little.

Salts (principally phosphates).—Barley, 27; oat-meal, 26; wheat, 20; rye 15; Indian corn, 13; rice, 5.

From this small list you would exclude, for their small percentage of salt, as regular additions to infants' food, rice and Indian corn. For their large percentage of albuminous substances you would select wheat, barley, rye, or

oat-meal ; for their high percentage of salt, so absolutely required in the healthy organization of the blood and of the rest of the tissues, barley, oat-meal, and wheat. Your list would consist of these three then : barley, wheat, and oat-meal, as possessing all the necessary elements of nutrition, while holding so much amyllum as to render it dangerous when in good preparation. Among the three, barley seems to be preferable for its nutritiousness and digestibility. There is another advantage it has over the other cereals mentioned, viz., that it bears the removal of a husk after grinding better than any other. The large proportion of the proteinous substances in wheat and rye is deposited in the inner layer of the husk, which is not generally used (Payen). Not so in barley, where the protein is spread on a larger portion of the grain. Thus the husk may be removed, and the consistency made fine, without diminishing to any considerable extent the nutritive value of its constituents.

Barley and oat-meal are the two substances I mostly employ ; for their chemical constituents are nearly alike, with the exception of a large

portion of fat in oat-meal which is not found in barley. Barley-water or thinned and sweetened oat-meal gruel may be given to the child at the breast, as above described. The indications for the use of one or the other lie in the condition of the infant. Where there is a decided tendency to constipation I prefer oat-meal; where there is no such tendency, or perhaps even a tendency of the bowels to be loose, I employ barley. The "prepared" barley is a good preparation; but it is safer, as no mistake or deception can take place, for every mother to grind it in a common coffee-grinder of her own. A teaspoonful of either is boiled in from three to six ounces of water, with some salt, for twelve or fifteen minutes, the decoction to be quite thin for very young infants,* thicker for later months, and then strained

* From the wording of these sentences the reader would naturally infer that Dr. Jacobi advocates feeding infants one or two months old, with starchy preparations. As, however, in other pages of "Infant Diet" the author has referred particularly to the fact that there is a lack of saliva during the first four months, we must conclude that the words "child at the breast," and "very young infants," do not necessarily apply to infants under four and a half months.

through a linen cloth. Infants of four to six months are to have equal parts of this decoction, which ought to be made fresh for every meal; and boiled and skimmed cow's milk and sugar are to be added. At an early age the thin decoction, at a later the milk ought to prevail in the mixture, which ought to be given at a temperature of 80-90°, ought to be neutralized, when acid, with a few grains of bicarbonate or carbonate of potassa or soda, and until infants are eight or ten months old thin enough to be taken through a nursing-bottle."

CHAPTER IV.

DENTITION.

THE belief generally obtains that the period of dentition is one peculiarly inimical to childhood. During the last few years, in deference to the plausible arguments of an eminent teacher in this department, it is not unusual to hear physicians taboo the "old-time notion" that dentition, a "purely physiological process," should give rise to such serious derangements as are ordinarily attributed thereto. It certainly stands to reason that nature should kindly superintend a work so especially her own, but the host of facts encountered by a physician forces the conclusion that teething is a tedious and painful ordeal, oftentimes working great mischief to the infant economy.

A theory that appears incontrovertible in the lecture-room, or in print, will often be proved wholly untenable by bedside experi-

ence. Supposing that scores of instances can be brought forward where little ones blessed with sound bodies and excellent care have "gotten their teeth as painlessly as the hair upon their heads," this does not dispose of the fact that, on the other hand, thousands writhe and languish till their vital forces are well-nigh exhausted because of the protracted irritation, due unquestionably to the crowding of hidden teeth against the unyielding, irritated gums. Every gesture, act, facial expression, and lament proclaim more forcibly than words that the local disturbance is driving the little sufferer to distraction; and, unless relief be secured in the complete eruption of the offending teeth, the irritation may, through the medium of the sympathetics, extend to remote parts, and thus profoundly affect the entire system even to the endangering of life. The most specious scientific argument would hardly convince the adult world that the comparatively insignificant matter of cutting the wisdom teeth (likewise a "purely physiological process") was unattended by constitutional as well as local disturbance. There are few physicians who cannot recount

instances in which a slight incision made in a swollen, tense gum has afforded instantaneous and marked relief, banishing as if by magic severe nervous manifestations and other morbid conditions. What stronger argument can be offered to prove that the teething process is one of misery than that which is plainly recognizable in the little ones suffering from it? Previously contented and happy, they suddenly develop unmistakable morbid symptoms. Slight febrile reaction, exaltation of pulse, peevishness, fitful sleep, starting at the slightest noise, appearance of fright upon awaking, dissatisfied whimpering, sometimes twitching of the muscles, disordered digestion, diarrhœa, and finally, to locate the cause of the disturbance, the little sufferers direct the hand to the head, or thrust the fingers into the drooling mouth.

Generally, dentition involves a period of many months, marked by seasons of remission, alternating with exacerbations of suffering, these intermissions corresponding to the successive appearance of groups or pairs of teeth.

The following quotations are peculiarly appropriate in this connection :

“The appearance of the twenty milk-teeth, as those at the first dentition are termed, does not take place in an uninterrupted sequence, but in groups separated by intervals of weeks or months. The following is the usual order of cutting the several groups :

“Group I. Between the fourth and seventh months of life the two lower middle incisors appear almost simultaneously, whereupon a pause of from three to nine weeks ensues.

“Group II. Between the eighth and tenth months of life the four upper incisors appear, following shortly upon each other, at first the two central, then the two lateral. The second pause amounts to from six to twelve weeks.

“Group III. Between the twelfth and fifteenth months of life six teeth appear at once, the four first molars, and the two latter incisors ; generally the molars in the upper maxilla first, next the lower incisors, and lastly the molars of the lower jaw. A pause until the eighteenth month ensues.

“Group IV. Between the eighteenth and twenty-fourth months of life the canine teeth cut

through (the upper ones are called eye-teeth). Again a pause until the thirtieth month.

“Group V. Between the thirtieth and thirty-sixth months the second four molars finally make their appearance. This concludes the first dentition” (Vogel).

“Many divergences from these rules will be met with, as children may be born with one or more teeth already cut, or the teeth may appear earlier than usual or out of the usual order. In some families the upper incisors always appear before the lower or one of the molars, or the canine teeth precede the incisors; but these irregularities are of no importance. Delayed appearance of the teeth is, however, of greater moment, for it generally indicates some fault in nutrition, or a rickety habit of body” (Steiner).

Taking into account the wisdom teeth the whole period of dental development covers twenty years or more. This time is divided into periods, and then again into minor divisions, all of which have accentuations more or less pronounced.

REMISSIONS IN DENTITION.

Particular attention is directed to the importance of profiting by this fortunate provision of nature in according to children who are teething periods of remission from suffering. Were it not for these the little patients would fare much worse. Mothers alive to the necessities of the situation will diligently employ every hygienic measure during the *interim*, in fortifying the system against the next attack, thereby averting possible calamity. This suggestion cannot be too strongly presented, for mothers, as a rule, allow themselves to be deluded in this particular. It is enough that the suffering is over for the time, the offending tooth or teeth are through, and wholly unmindful of the approaching exacerbation, the valuable time is squandered, until some day the gravity of their shortcoming is realized in the prostration of the little one, who is wholly unprepared.

We reiterate, let mothers note well the fact that the first period of suffering which is successfully passed is only one of a succession

which must be met, the endurance of which depends largely upon the course that has been pursued in fortifying the system against the attacks.

That which is meant by wise improvement of these remissions, is the employment of every well-known means which favors a sound, well-regulated state of the system. So manifold are these hygienic essentials, and so obvious withal, that they need not here be particularized.

An important feature in dentition, made especially interesting from the neglect usually attending it, must here be alluded to. After the child has passed through the first period of teething—extending it may be to the third year—there ensues a long time of quiet, and the majority of parents believe that all possible trouble arising from teething, is passed. So secure are they in this opinion that they are wholly at a loss to account for the physical disturbance that sometimes appears about the fourth or fifth year. The child develops vague nervous affections, becomes peevish, and languishes. Often a teasing cough accompanies,

which the old wives commonly call "stomach cough" or "worm cough." All these symptoms may prevail in varying degrees of severity, and run their course, (albeit assailed with various forms of treatment) without one thought having been directed to the true nature of the disturbance. It is well, therefore, whenever the health of a child four or five years of age becomes unbalanced without apparent cause, to examine the mouth, and in all probability the four front molars will be found pushing their way through the gums.

We will not undertake a detailed enumeration of all the anomalies directly and indirectly associated with the evolution of the teeth, as this would inevitably lead to confusion. We will therefore briefly attempt a discussion of some of the most notable associate disturbances.

INTESTINAL DISTURBANCES.

Dentition exerts an undeniable influence over the intestinal economy, not unfrequently being the direct cause of serious gastro-intestinal disturbances. Indeed there are few children who escape one or more attacks of gas-

tro-intestinal catarrh during dentition. These attacks vary in severity from slight relaxation to the fatal flux. So many children fall victims to the severer type, that all diarrhœas at this period are regarded with solicitude, and parents are apprehensive so long as the alvine excretions are abnormally frequent. Accordingly, no sooner does this condition present itself than a routine of drugging is instituted, and it matters little what constitutes the remedy, or its manner of working, so long as it checks the diarrhœa for the time.

If by any means humanity could be persuaded to accept Nature as the kind foster-mother in all bodily ills, it would be most fortunate, and many physical manifestations that are now considered mischievous, and treated as such, would be turned to good account.

This oversight is nowhere more amply exemplified, than in the management of infantile diarrhœa. The current belief is, that if an intestinal catarrh be neglected, and allowed to pursue its course unchecked, it will most likely assume a more pernicious, and perhaps fatal, form; hence the first idea is speedy suppression.

A little reflection will show the unsoundness of such a policy. The diarrhœa does not constitute the disease, *per se* any more than the increased secretion from the nose constitutes the irritation, and congestion, due to exposure and consequent rhinitis. The increase in number of the evacuations, and their altered character, are due to congestion and irritation somewhere in the system, which nature is seeking to relieve by opening wider the sluiceways. It is perfectly plain, then, that the diarrhœa is merely an effect, and may properly be regarded as a signal by which nature indicates her manner of operating for the relief of congestion, or the expulsion of morbid matter, and suggests to those who would lend a helping hand, what measures are most appropriate.

In other words, if we would act wisely we should study nature's ways attentively, as revealed in the symptoms of physical expressions characterizing the disorder, and having noted these carefully, adopt a parallel remedial course. We may be certain that the more closely the *modus operandi* of our medicinal

agents, tallies with the symptoms characterizing the morbid condition *in toto*, the greater will be our success. As we shall have occasion to deal with this matter more fully in its appropriate place, we will not here make further allusion to the laws of drug selection, further than to urge that the two following essentials be firmly fixed in the mind:

First, study faithfully and follow Nature's suggestions as presented in characteristic symptoms of disease.

Second, bear in mind the fact that all drugs exert upon the living animal economy a two-fold action, called the *primary* and *secondary*, which two effects are the opposite of each other; the first being the active and transitory, and the second the reactionary and lasting, consequently the latter must be regarded as the *curative*. This is an abiding principle, and should be heeded whenever drugs are administered with a view to a *curative** result.

* Since the full sense in which the term "*curative* result" may not appear to the reader, we will add a word of explanation to show that drugs are not always prescribed with a view to their curative virtue, but often for the simple purpose of

Let us illustrate its application. Suppose a dose of castor-oil or other simple laxative be given to a child afflicted with diarrhœa, the effect will be, primarily, a slight increase of the relaxation (nature being thus abetted), the evacuations changing to a healthier complexion, and this will be succeeded by symptoms of decided improvement, or diminution in the frequency of the dejections, which constitutes the secondary stage. Suppose, on the other hand, there be adopted the short-sighted policy of administering a dose of *paregoric*, "*compound chalk mixture*," or other astringent, what will be the result? Probably the urgent symptoms will be promptly allayed, the child may sleep, and the alvine evacuations checked; but a little

palliation. As for instance, when opium is given in ordinary doses to allay the pain of colic or of a broken bone, it is a *palliative*. If on the other hand, it be administered in minute doses to meet its indication in some form of apoplexy, or habitual drowsiness, it is given solely as a *curative*. Drugs are curatives only as they, through the virtue of their action, *eliminate* disease. They may suppress, mask, temporarily check, causing all these and many more results to ensue, whereby they who see only the surface of things are deluded, for it is found that when their primary force has been expended no "*curative result*" has been effected.

later we find that this apparent improvement is a delusion, and that the disease has only been masked. While the drug is exerting its primary action, the symptoms are merely palliated, the channels of egress for the noxious matter sealed up; but the disease proper has been steadily gathering force, and upon the supervening of the secondary action of the drug, the disorder reappears, fortified by the evil evoked through misguided medication.

“SOOTHING” MEDICINES IN INTESTINAL AFFECTIONS.

A child suffering from gastro-intestinal irritation coincident with dentition, the leading symptoms being slight fever, restlessness, petulance, capricious digestion, thirst, frequent alvine dejections accompanied with severe abdominal pains, the whole combining to picture a familiar condition demanding speedy alleviation. If the ordinary routine of medication be employed, the shortest cut is taken in the direction of immediate relief from present suffering. In all probability a dose of paregoric, combined with some astringent, or a dose of “compound-chalk”

mixture, or some other favorite soothing preparation is administered, which in a few minutes exerts its charm, and to a superficial observer all seems well. This is the primary effect, and now note that which the secondary effect reveals. While the child is soothed, and to the mother seems to be doing well, the skilled observer will perceive a number of undesirable and significant changes; the character of the pulse will probably be sharper and more rapid; the face may be cooler, but the base of the cranium will be warmer, the lips pallid, and the tongue dryer; while the half-closed eyelids, revealing the upturned eyes, have a deepened tint underneath. As a rule, the extremities are cold and jerk frequently, or a single set of muscles will give slight quivering spasms. All these symptoms belong to the narcotic, and forebode evil.

Soon the child awakes disconsolate, obstinate wakefulness succeeds the unnatural slumber, and now all the symptoms, which for a time have been held in abeyance by the mischief-working potion, recur greatly intensified. We have not only the original distemper to deal

with, but the after-effect of the palliative, which is now on the side of the disease. This aggravated condition too often leads to a repetition of the previous injudicious measures, which strengthen the disease and render inevitable the ultimate calamity, which might have been averted by following the steps plainly indicated by nature.

The opinion prevails with the intelligent classes that the use of narcotics in the nursery is no longer countenanced by the rank and file of physicians. Unfortunately this belief would be effectually dispelled by a glance through the current medical literature of the day, or better still, by scanning at random the prescriptions compiled in any pharmacy.

TREATMENT OF PAINFUL GUMS.

When dentition is painful and the gum tense and swollen, gentle rubbing with the ball of the finger is grateful and soothing to the little one ; but the practice of first moistening the finger in paregoric, laudanum, or other anodyne cannot be too thoroughly condemned, for the narcotic

thus introduced into the system is no less pernicious than if swallowed in the usual manner.

Finally, great relief may be afforded by slight incisions made at the proper time, in such a manner as to completely sever the tense bridle of resistant tissue stretched over the prominent yet hidden tooth. Few procedures are more gratifying in their results than this simple one when correctly performed. To be effectual it is necessary that the condition be perfectly ripe, and also that the incision be thorough, otherwise the cicatrix resulting from a premature and imperfectly made cut, will render the future eruption of the tooth more tedious and painful.

When it is certain that the tooth has approached well toward the surface, let the nurse hold the child's hands, and rest its head firmly between the knees of the operator. Then make a clean, free incision, down to and along the crest of the tooth, and before liberating the head rub apart the edges of the wound with the finger, so as to push the severed gum apart on either side of the tooth—a simple precaution which should never be neglected, for so

rapidly does a clean incision made in the gum heal, that all signs of it may disappear in a few hours. When the gum is markedly swollen it is well to make two incisions crossing each other in the form of a letter X. It is probable that one or more delicate nerve-filaments which have been rendered exquisitely sensitive and inflamed through being drawn tensely over the advancing tooth is severed, and the relief secured instantly extends to remote nerve-centres.

CHAPTER V.

FRESH AIR.

NOTWITHSTANDING all that has been written and is everywhere taught concerning the vital importance of fresh air, few of those superintending nursery affairs appreciate the full significance of the matters. The ordinary mind is more surely swayed if directed to the contemplation of that which can be seen and handled, while the unseen and imponderable is naturally disregarded.

Out of a thousand mothers, scrupulous in the personal cleanliness of their children, it is doubtful if there will be one among the number who intelligently realizes that fresh air is the chief cleansing factor of the body, and that without its purifying effect within, the blood so speedily becomes loaded with effete product, that death from poisoning is only a matter of a few seconds.

Water that has been used, or that is visibly

impure, is rejected as being unfit for further use, because its filthiness is revealed by sight ; but air that has been used, and is loaded with the poisonous exhalations of the system, is often respired over and over again by those fastidious in personal cleanliness. They make no protest because nothing reveals to any physical sense the uncleanness of the atmosphere enveloping them ; nevertheless, breathing air defiled and exhausted by previous respiration is infinitely more obnoxious and injurious than bathing in water soiled by previous bodily contact.

The body has very properly been likened to a furnace, the fuel of which is the food ingested ; the lungs, of course, constitute the draught or bellows. If the air be freely supplied and of good quality, the combustion is proportionately complete, and it goes without saying, that the opposite condition will incur corresponding deficiency. If we advance another step we may regard animal life as nothing more than a chemical process, the principles of which are within the range of comprehensible laws and analysis.

The combination of oxygen with carbon, (as, for example, the burning of charcoal) generates

carbonic acid, an imponderable, imperceptible, tasteless gas, yet most deadly in its effects upon animal life. Were a little charcoal ignited and left to burn in a room from which all air is excluded, and at the end of an hour a dog be shut in this room, we should witness the workings of vitiated air. Immediately the animal evinces a desire for a fresh atmosphere, which is speedily followed by drowsiness, stupor, and death.

So, then, we may liken the living body to the burning charcoal, for like the burning coal the respiring body is constantly appropriating oxygen and throwing off carbonic gas and other noxious exhalations. To explain our meaning more fully let us revert to certain elementary facts.

The atmosphere is composed chiefly of two elements, oxygen and nitrogen, in the relative proportion of twenty-one of the former to seventy-nine of the latter, with a trace of carbonic acid, of which a very slight increase over the nominal proportion will seriously embarrass animal life, as authorities on hygiene consider air in which this impurity exceeds one part in every four thousand by volume—that is, a room 20 feet square and 10 feet in height, containing

more than one cubic foot of carbonic acid is so vitiated as to be unfit for respiration.

Now let us note that an adult breathing at the rate of seventeen times each minute, and respiring twenty-five cubic inches of air at each respiration, will transpire about three hundred and sixty cubic feet of air in the twenty-four hours. In passing through the lungs the air loses about five per cent. of its volume of oxygen, and gains from four to five per cent. carbonic acid. Hence it will be seen that an adult in repose exhales about sixteen cubic feet of carbonic acid gas per diem, a sufficient amount to vitiate 64,000 cubic feet of atmosphere, which would fill a room 80 feet long, 40 feet wide, and 20 feet high.

To those who have hitherto given the matter no particular thought these deductions drawn from mathematical calculations will be startling and may appear incredible, especially when there can be recounted so many instances of long lives passed almost entirely in foul air, which would seem to refute scientific assertions. We must take into consideration, however, that in a very brief time many cubic feet of air may

pass through crevices insignificant in size, and fortunately none of us have our rooms hermetically tight, for, were this the case, instead of the languid, pallid creatures who waken with a sense of fatigue in their illy ventilated rooms, we would find inanimate bodies self-slain by their own poisonous exhalations.

In the construction of hospitals at the present time, facilities for proper ventilation are the first consideration, these arrangements being made with a view to, and in conformity with, recognized philosophical principles, consequently wards are so arranged that they can be flushed with fresh air at the rate of 4,000 cubic feet per hour for each adult patient. Enormous as the quantity may at first appear, a little calculation will demonstrate that these magnificent figures do not exceed the demands of Nature.

Having given the approximal fundamental estimate it will serve to carry the truth home for each one to elaborate this matter with varied computations. Of course a fuller allowance is accorded the occupants of a hospital, as a relatively greater amount of carbonic acid is produced by the quickened respiration of the sick,

hence it is that 96,000 cubic feet are allotted invalids instead of 72,000, the standard for healthy adults at rest.

We need hardly state that exercise, which results in heightening the respiration, necessitates a proportionate increase in the atmospheric allowance allotted rooms in which physical exercise is being prosecuted. Bodily exertion causes deeper respiration, quickened circulation, with a corresponding increase in the consumption of oxygen and elimination of carbonic acid and tissue *débris*. Professor Huxley estimates that an average-sized adult ordinarily consumes, in twenty-four hours, 10,000 grains of oxygen, and during the same time produces 12,000 grains of carbonic acid, equalling nine ounces of pure carbon, constituting so much poisonous matter which has been purged from the system by the process of respiration.

To explain still more forcibly the manner in which fresh air is constantly importing oxygen into the body for its renovation, returning saturated with the noxious exhalations that have been given in exchange, we will give in passing a brief explanation of the phenomenon of blood

aëration, which constitutes the grand function of the lungs. We note that 6,000,000 is the approximate number of air-cells contained in a normal pair of lungs. Into this multitude of little sacs the air rushes, and at the same time the heart throws the venous blood into the meshwork of pulmonary capillaries, which distribute the blood throughout the lungs, so that only the delicate tissue membrane which forms the wall of the air-cell intervenes between the blood and the air, and it is through this filmy septum that oxygen passes to the blood, and the morbid effluvium is given off.

Immediately after the interchange the enriched blood enters the return pulmonary vessels and hastens back to the heart, where it is speeded on its way to the upbuilding of remote tissues, where in turn it gives up its revivifying elements, and again enters the venous system laden with effete product, on its way once more to the grand centre of purification, and thus the ceaseless round goes on while life endures.

By carrying our computation a little farther we can see how frequently the blood is subjected to this cleansing process.

It is estimated that the blood constitutes one-thirteenth of the total weight of the body: for instance, a body weighing one hundred and thirty pounds, contains ten pounds of blood. The heart beats at the rate of seventy to eighty times in the minute, and at each stroke it throws out from five to six ounces, so it will be seen that more than twice the entire volume of blood passes through the heart every minute, or, in other words, all the blood of the body is subject to the process of oxygenation within the lungs every thirty seconds.

Data could be multiplied showing the necessity of supplying ourselves with an abundance of fresh air, but surely enough has been offered to make good our object, which is to prove the importance of having children's rooms so arranged as to be at all times readily flushed with air from outside.

Were more practical heed given to this matter there would be fewer pallid children who waken in the morning petulant and unrefreshed, remaining dull and listless, or fractiously rebellious without apparent cause.

A word concerning the method of admitting

fresh air into our apartments. The ill effects of sitting in draughts are so well known that it is hardly necessary to insist that they shall be guarded against by so locating the aperture for the admission of air that it will be out of range of the occupants of the room.

When the matter of ventilation has been overlooked in the architecture of an apartment, lower the window to admit the air from above, and the outer air being cooler, and therefore heavier than the rarefied air within, gravitates to the floor, and thus a constant change in the atmosphere is effected. When the air enters near the floor, with no means of escape above, the ventilation is imperfect, for in such a room the temperature near the floor, where the baby is apt to be sitting, will be quite chilly, while a few feet higher it may be uncomfortably warm.

The situation of the child's crib should be discreetly selected. It should not be directly in front of a window, even though the width of the room intervene, for a current of cool air entering near the ceiling will project itself to the wall opposite, and then be reflected down-

ward, so that any one sleeping there will be virtually subjected to a draught.

Again, it is impossible to secure free circulation of air in an alcove, and therefore these recesses are utterly unsuited to the purpose for which they were intended. Unfortunately if such a nook be connected with the nursery or bedroom, it is quite sure to be allotted to the little one because "it looks so cosy."

It is wellnigh impossible to secure an intelligent co-operation on the part of mothers, in observing the requirements necessary to proper ventilation. They are apt to confound temperature with ventilation, that is, the coolness of a room is regarded as equivalent to purity of air, and *vice versa*, I know that physicians have constantly to contend with this perverted idea, and for this reason it is here explained that the warmth or coldness of a room has nothing to do with its atmospheric purity, for the air that is odorless and unbearably cold may be highly charged with noxious effluvium infinitely more harmful than the warm, sweltering atmosphere reeking with offensive odors.

Finally, we must not neglect to take into ac-

count the effect wrought by burning gas jets, or heating apparatuses. The fact is not always appreciated that a small gas flame consumes more air than four or five men and gives off a proportionate amount of the poisonous carbonic gas. Of course it is easy to perceive that a hot stove is, in proportion to its size and intensity of heat, an active destroyer of air. We have before us a most alluring topic for elaboration, but it is my purpose to present only the salient points of this subject concisely and plainly so that every reader may draw practical deductions since the propositions adduced are sustained by simple arithmetical calculation.

No other question of such vital moment can be thus absolutely determined by elementary computation, when once in possession of numerical as well as physiological facts, which essentials have been pointed out in the preceding paragraphs. A careful inspection of these precepts can hardly fail to convince every intelligent mother that the health and happiness of a household hangs extensively upon proper ventilation.

CHAPTER VI.

NURSERY APPURTENANCES.

IN providing good things for the nursery we must remember that sunlight stands first in the advantages it confers. Strange to state, many mothers pay little heed to this matter, while others, and we may say the majority, treat the sunlight as though it possessed some baleful influence to be avoided, and so strive to shield themselves and little ones from its rays, priding themselves upon their dainty flesh-tints, a blameworthy condition rather than one meriting admiration. The blanched, delicate-complexioned child, denied the benefits of sunshine, and the one saturated with its life-giving rays, bear the same relation to each other as the blanched friable sprout, growing in a darkened cellar, and another of the same kind thriving under the sun, tough, pliant, and strong,—able to withstand rough encounter, while the former readily succumbs to the most trivial disturbance.

When we reflect upon the far-reaching influence emanating from this great central power, it ceases to be a marvel that nations have worshipped the sun as the supreme benefactor of mankind. Search diligently on every hand and we will find scarcely a blessing that directly or indirectly is not wrought by the sun. Not only are our physical wants and conditions dominated thereby, but our moral faculties also are swayed by its subtle power. Study the dispositions of men who for a long period have been deprived of sunlight, and note how they gravitate to the spirit evinced by the lower animals that prowl in darkness. Sunshine cheers and ennobles, while its absence breeds moroseness, cruelty, and baseness.

Again, sunlight is our most efficient disinfectant, and as a destroyer of morbid germs it infinitely excels all artificial germicides.

Not only does it banish the floating microbes that poison the surrounding air, but it penetrates and renovates the structure of the body. The "blue-glass-cure" craze that swept the country not long since pointed a lesson which should not readily be forgotten. Every sensi-

ble person knows that the color of the glass had nothing to do with the many cures wrought beyond intensifying the subjective elements of the process.

Let mothers who would have their children cheery and vigorous, sound in mind and body, flood the home, especially the nursery, with sunshine.

NURSERY CRIB.

The position of the cot must be considered. It should be placed in a quiet part of the room, removed from the heating apparatus, and never beneath a gas fixture, instances being on record of children who were poisoned by inhaling carbonic oxide falling from fixtures suspended above their cribs. In the arrangement of the little bed let there be no canopy, or drapery in any form, as it only obstructs atmospheric circulation. It may seem superfluous to advise the mothers of to-day to discard feathers for the more sanative article, curled hair, for mattress and pillows, nor would it seem necessary to suggest covering the mattress with a rubber sheet; but, strangely enough, we still find the old germ-breeding feathers in use, and the mat-

tress unprotected. A folded quilt or blanket should always interpose between the child and the rubber sheet.

While commending the stationary crib, and believing that with a little turning from side to side blood stasis may be prevented, still the old-time custom of rocking the baby need not be so unqualifiedly denounced. The modern swinging substitute, suspended in an oscillating form is a senseless device and affords no satisfaction whatever to the child; but the little flaring box, with its rigid foot-worn rocker has (besides the tender home associations that cluster around it) the merit of being philosophically constructed. Young Homunculus awaking in one of these old-time beds, and protesting against the discomfort of blood stasis, derives immediate relief from a few vigorous motions imparted to the cradle, which jolts and rolls his little body, sending the blood more briskly through the passive tissues, and he falls asleep again.

The framework of the crib should be as light and open as possible for the securing of perfect ventilation, and for safety a sufficiently high side-railing should always surround it.

The old-fashioned close boxes demanded more attention than was always accorded them, and their contents were often found to be in a most objectionable condition. For sanative and other reasons, open wicker-work cannot be excelled. When necessary for the economizing of room, the little bed can be in basket form and easily suspended by four ropes from the ceiling; they should be well separated above to prevent swinging. If desired, it may be conveniently swung over the foot or at the side of the mother's bed.

MEANS OF AMUSEMENT.

It seems hardly within the province of a physician to call attention to the matter of play-things for infants, but how often is he called upon to deal with serious, and sometimes fatal, accidents arising from lack of discrimination in supplying the nursery with suitable articles of amusement.

Scattered over the floor, in accessible drawers, on the table or shelves, may be found buttons, hooks and eyes, small coin, marbles, hair-pins, etc., in addition to the unsuitable play-

things that often are either smeared with cheap poisonous paints, or are so constructed that through accident (like the breaking of a string of beads) they may become a host of smaller fragments. Every one who has studied the habits of baby knows how eagerly everything that the tiny hands can grasp is conveyed indiscriminately to its general receptacle, the mouth.

The importance of exercising vigilance in these apparently trivial matters is seldom appreciated, until some dire calamity befalls as the penalty of carelessness. It is no more trouble or expense to provide the nursery with safe and instructive articles, than with those that are dangerous and meaningless.

It would be difficult to mark the period when an infant begins to appreciate the merits of surrounding objects, but one thing is certain, that adults blunder stupidly in dealing with the impressionable, keenly alert, infantile mind. We have no right to confuse and vex the little brain by placing before it distorted caricatures of objects at a time when the mind is struggling out of the void toward a knowledge of things ;

neither is it pardonable to perplex it with a jargon of meaningless sounks, as though reducing one's self to imbecility was necessary in order to be acceptable to a child. As far as possible and consistent, then, let the attentions and gifts to the little ones be in keeping with practical intelligence.

From the earliest days encourage a fondness for the toys, by securing those of a substantial nature, and at all times firmly discountenance destructiveness, an indifference to which is favored by the possession of cheap and fragile toys. The various rubber toys, such as manikins of animals and persons, large gayly-tinted balls, etc., are safe and afford great pleasure. The colors must be properly applied and inoffensive. At a very early day children will evince delight over harmony of sounds, a fact which some toy-makers have turned to good account, by supplying a chime of bells properly attuned and of soft tone, which are suspended on a string attached to two upright standards of suitable height. With a baton in the little hand this device is a source of much pleasure. Not only should all

cheaply painted toys, colored candy, and all suspicious pigments, be excluded from the nursery, but the coloring matter of the paper on the walls should be subjected to analysis. Within the last few years this sanative question has revealed some startling facts. The written reports of Professors Woods and Lyon are especially instructive. Professor Wood has recorded forty-two cases of severe illness caused by wall-paper charged with arsenic. In Professor Lyon's report are described fourteen cases of sickness due to arsenical wall-paper, all of which came under his personal observation. Careful examination and experiment proved that in each of these cases the system was impregnated with the poison, which had become loosened and floated in the atmosphere in which the victims lived. In one house the paper revealed eleven grains of arsenic per square yard. It is generally supposed that the tint indicating the presence of arsenic is green, but it is found that papers of every hue may contain the poison, the highest-priced as well as the cheapest. Many of a greenish tint contained not a trace of arsenic.

White glazed and plated papers, designed for the use of children in Kindergartens, yielded from twenty to fifty-five grains per square yard. The white paper generally used for covering or lining small boxes was the most heavily loaded of all, yielding forty-five grains to the square foot, a quantity sufficient to kill fifteen men. The lesson afforded by these striking facts shows to the head of every household the plain duty of submitting the matter to a skilled chemist, since the question is beyond the ken of laymen.

The eyes of infants are far more susceptible to the injurious effects of light than are those of older persons, consequently special care is demanded in this particular when arranging the nursery. Besides selecting suitable tints for wall decoration, see to it that the light be not reflected into the nursery from some neighboring wall or object of dazzling whiteness, as it is not unusual to find the sight of children seriously impaired in this manner.

Perhaps the most satisfactory and untiring means of happiness to the little ones is a bed of clean white sand. It is easily arranged by

constructing a bin or box of such dimensions as can be afforded, in which the sand is deposited. It is unnecessary to determine wherein lies the charm of this for children, but certainly it is a never-failing source of delight to them. Into it they will carry their miniature animals, houses, and fences, and hour after hour play contentedly.

SAFEGUARDS.

Do not procrastinate in supplying the nursery with all necessary guards against possible accidents ; see to it that every door or passage at the head of stairs has a lattice-work gate, made self-closing by simply adjusting thereto a rubber band. Likewise, let the stove or open fire be enclosed by a suitable wire screen. Should the windows be low, these too must receive proper attention. There should be no water-closet, bath-room, or set-basin connected with the nursery apartments. Finally, the point urged is the *timely* execution of these measures, for we can all recall instances where the sad penalty of delay has been paid.

CHAPTER VII.

EARLY INDICATIONS OF DISEASE.

No eye studies more faithfully, or detects so quickly, the shifting of the lights and shadows in Baby's physical state as that of the devoted mother. She may not always be correct in her deductions, or comprehend the full significance of the change, but, be it never so slight, she is keenly alive to it. Compared with her delicate conception, the physician's understanding, while more methodical and definite, is oftentimes sluggish. The intimate relationship which a mother holds renders it imperative that she should acquaint herself with the varied physical expressions constituting the language of disease, and everyone can realize how peculiarly important it is that she should be able to detect early, and interpret wisely, these physical manifestations; for she must be the mouth-piece of the little one, "who has no language but a cry" by which to convey its sensations. Then, again, a child

when ill is subject to more sudden and frequent changes of condition, developing perhaps numerous phases in the interim of a doctor's visits ; and an intelligent report of these is invaluable to the welfare of the case, for without such information the most skilful practitioner may find himself in a perplexing position.

Were we to undertake an enumeration of all the indications by which we are guided in the treatment of children's diseases, the reader's mind would soon be helplessly bewildered by their great number. There are, however, certain manifestations that may be designated "key-note symptoms," that, whenever displayed, are always indicative of special morbid conditions. As these characteristics are comparatively few, and more sharply outlined, an acquaintance with them (which is quite possible) cannot fail to be of great help to mothers in the early detection and possible arrest of disease. To the experienced observer every intonation of voice, every gesture or movement of the body, manner of breathing, and cast of countenance, are all significant.

CRY OF INFANTS.

In the first place, the cry of an infant is full of meaning. The lusty, vociferous cry of temper is wholly different from the beseeching moan of chronic suffering, or sharp, rending cry of acute pain. A healthy child seldom awakens with a sharp cry, and when this occurs we should think of hip-joint disease, or cerebral irritation. Whimpering and constant fretfulness are suggestive of intestinal affections. In the case of colic, however, the cry is usually a full, loud one. The restricted, catching cries associated with flushed face, hurried breathing, jerky respiration, and high temperature indicate pleuritic or pulmonary affections.

The brain-cry is peculiarly characteristic, and once heard is never forgotten. It consists of a single sudden, sharp, piercing shriek, which penetrates to the very soul of the listener. When this is heard there is not a doubt of the existence of some serious cerebral disorder. The difficulty may be located in one of the ears, but oftener there is meningeal irritation.

GESTURES AND MOVEMENTS.

A child's gestures are also highly significant. Whenever a little one pats or strokes its head, pulls at its hair, ears, or cap, cerebral irritation may be apprehended; and should there be added constant rolling from side to side of the head, which is drawn back as though boring into the pillow, the nature of the case is still more evident.

With rarely an exception, healthy children are perpetually in motion while awake; therefore, when a child remains motionless, evincing fear of anything threatening to disturb the position, or jar the body, we should, in the absence of fever, suspect some lesion along the spinal column or hip-joint. If fever exist, it will probably be found that some one of the serous membranes—the peritoneum, pleura, or the lining of the great joints—is inflamed.

Whenever a child cries out or shrinks from a free movement of its legs, and it is found that the motions of either leg are restricted, or it looks blanched and slightly wasted when compared with its fellow, no time should be lost in

ascertaining the cause, no matter how trivial the disturbance may seem to be. See to it that the examination be thorough, and made by one competent to determine. The necessity of this cannot be too strongly emphasized, for on every hand we see victims of *hip-joint disease* whose life-enduring sufferings bear witness to the culpable indifference of parents, or the ignorance of medical men.

CONVULSIONS.

An ominous hush following tumultuous cries of pain, together with slight muscular jerkings, or sudden springs and starts, as if frightened; facial twitchings, scintillating, rapidly rolling eye-balls, demand prompt and energetic measures for the prevention of a convulsion, which is unquestionably imminent. To this end let the body be speedily placed in a full, warm bath, and, should there be a suspicion that the stomach or intestinal canal contain irritating matter, give twenty drops of syrup of ipecac (a vial of which should be kept constantly on hand) every fifteen minutes until free emesis is induced, and at the same time a movement of

the bowels should be secured by an enema of warm soap-suds. For further instruction see page 203.

EARLY SIGNS OF PULMONARY AFFECTIONS.

Respiration affords us many valuable suggestions ; so instructive are the modulations in breathing that, by this means alone, one is often able to determine the condition of a patient. Especially does it constitute an indispensable element in the diagnosis of disease in childhood.

PNEUMONIA.

Supposing we have to treat a child whose respiration is hurried, labored, and evidently insufficient, short stuffy coughs of more or less frequency are heard, and if the child be old enough to expectorate (which they seldom do under five years) the sputa show rust-colored streaks.

With no further investigation we are warranted in believing the case to be one of *Pneumonia*—which suspicion becomes a certainty if, superadded to these indications, there is a deep crimson spot on one or both cheeks. The nos-

trils dilate and fall with each respiratory effort ; the large blood-vessels extending on either side of the neck mark the accelerated heart-action with a bounding impulse, which imparts a peculiar thrill to the touch. The thermometer will probably declare an elevation of perhaps six degrees. The diagnosis of such a case is very simple, and the lesson aimed at is concisely stated as follows : The quickened, panting, painful breathing, accentuated with a peculiar stuffy, restricted cough, are the initial symptoms which sound the note of alarm to the mother.

As a rule, in pneumonia the onset is sudden, without any previous warnings in the form of coughs and colds, as many believe. The rigor and chill which invariably usher in this affection are seldom noted in young children.

PLEURISY.

Pleurisy, or inflammation of the serous sac enclosing the lung, is occasionally met in childhood, and may be mistaken in its early stages for pneumonia ; and here also the character of the respiration is our chief aid in differentiating. It is quick, but not labored as in pneumonia ;

the air does not descend deep into the lungs, for the pain excited will not permit the walls of the thorax to expand ; in fact every movement of the body is restrained through dread of the pain incurred. The cough is dry, short, and spasmodic, evidently causing excruciating pain—evinced by the peculiar catching, sharp cry it forces—which the little one vainly endeavors to suppress, lest it too intensify the pain which accompanies every free play of the lungs. In pleurisy, as a rule, the fever does not reach so high a grade as in pneumonia.

DIPHTHERIA.

If, at any time after a few hours of fretfulness, the voice assumes a thick, muffled tone, and the child lies with parted lips, breathing heavily, the inspiration sounding thick and “mussy,” while the skin feels hot and dry, do not fail to open wide the mouth, depress the tongue, and examine the throat carefully, for probably it will be found swollen, injected, and bearing, on one or both sides, one or more white or grayish patches, thus completing the diagnosis of an attack of diphtheria.

CROUP.

We need not linger to detail the peculiarities of respiration when associated with the ordinary physical derangements of less urgent nature ; as, for instance, whooping-cough and catarrhal affections. These may find a passing note in the chapter devoted to therapeutics. Before closing this section, however, we must refer to another anomaly of the respiratory organs universally designated "Croup." It is currently believed that there are two distinct types of croup—the "Spasmodic," or "False," and the "Membranous," or "True," varieties. The form which is most commonly met with is the so-called "False Croup." The child retires in its usual health, with perhaps symptoms of having taken cold. Suddenly, the stillness of the night is broken by a loud, hoarse cough resembling the deep bark of a watch-dog. The suddenness of the attack, the time, the unnaturalness of the sounds emitted, and the terrible suggestiveness of the cough as it echoes dismally through the house, fill the mother's heart with fearful forebodings. The little one

is found restless, slightly feverish, temperature seldom above 102° , respiration more or less wheezing and rough. The voice is changed, being either gruff, with a metallic clang, or pitched on a higher key, sounding as though forced through a narrowed or contracted space. In a little while the cough returns more furiously and in paroxysms, and the little one springs up, tosses its arms and head about, while the face deepens in hue, and the protruded eyes have a wild, anxious stare. Although the symptoms combined present a frightful picture to those whose minds are filled with the dread of that formidable disease, "Membranous Croup," for the alleviation of the parents' apprehension we are warranted in stating that, ominous as the situation may be, there is no cause for deep alarm; providing the appropriate measures (which we shall describe later) be properly and calmly employed, the storm will be passed before morning.

The reader will now naturally look for a descriptive account to follow, of the more formidable companion affection, so graphically depicted in the text-books, and firmly believed in

by the masses, "Membranous Croup;" but, as in my sixteen years' practice I have never seen the disease—nor have I found any intelligent physician who has had any personal experience with it—I venture to predict that it will not be encountered save as a complication of diphtheria.

The following Symptom Table will be all that is necessary in this connection for differentiating the conditions :

SYMPTOMS OF SPASMODIC OR FALSE CROUP.	SYMPTOMS CHARACTERIZING THAT CONDITION DESIGNATED AS "MEMBRANOUS" OR "TRUE" CROUP.
1. The premonitory symptoms are insignificant and are those of acute catarrh.	1. The premonitory symptoms are severe chill, followed by fever. The eyes are injected and look heavy ; the general appearance is suggestive of heavy cold.
2. Its onset is sudden ; appearing unexpectedly in full force and always in the night.	2. So far as local manifestations extend they are not usually violent at the onset, and may appear either day or night.
3. The cough is lusty, resonant, and full, like the baying of a young hound, and the voice is hoarse and husky.	3. The cough in the beginning is but little, not noisy, but short, dry, husky, and the voice is correspondingly dry, stuffy and hoarse, but instead of this hoarseness being gruff and deep, it is apt to be cracked, or even piping.

4. There is little fever, temperature seldom above 102° .

5. There is no physical prostration.

6. Child does not complain of pain when swallowing.

7. The attack subsides to a degree with the night, to return the following one, unless successfully treated.

8. The throat displays no patches, but as a rule is injected, and the color deepened.

9. The termination (which is almost invariably favorable), is accomplished gradually. Decided amelioration may be expected after the second night. The hoarse cough and catarrhal symptoms may linger for a week or ten days.

10. All the symptoms point to a congested irritable state of the mucous membrane of the upper portion of the windpipe and pharynx.

4. There is intense fever from the first, often ranging as high as 106° . The surface is hot and dry, the respiration hurried and constricted, as if forced through a constantly narrowing space.

5. Physical prostration is marked from the beginning.

6. The child frequently complains of pain in deglutition.

7. The attack is steadily progressive throughout, being unrelieved by any periods of decided remission.

8. The throat reveals a white or grayish exudation, which often covers the back part of the throat or pharynx, dips down and is lost to view in the glottis.

9. The termination is death from asphyxia, as respiration grows more and more difficult, and occlusion ultimately ends the struggle.

10. It will be seen that all constitutional indications closely resemble those of diphtheria.

EARLY INDICATIONS OF TUBERCULOSIS.

For the successful management of thoracic disorders occurring in patients of a consumptive tendency, the early recognition of the tubercular diathesis is of the highest importance. The chief indications are: a too clear and brilliant complexion, while the delicate skin is so transparent that the superficial veins show quite prominently; an over-bright eye, large pupil, and long, fine lashes; soft, glossy, moist, hair; precociousness; enlarged cervical glands; heart's action easily increased; pulse habitually too frequent; catarrhal condition, etc.

CHAPTER VIII.

THE RIGHT AND WRONG USAGE OF DRUGS.

A PHILOSOPHER once declared that, "through the art of drugging more harm had been wrought upon humanity than from pestilence and sword combined." The truth of this enunciation would seem assured to anyone conversant with the history of medicine, for its annals abound, to a degree exceeding the wildest fancy, in doctrines illogical, practices cruel and vile, and beliefs preposterous. Indeed, we have not to revert to that which is written to establish this, since practices which would not be tolerated by the present generation were popular during the earlier years of men still living, who at one time upheld and practised salivation, blistering, wet cupping, purging, vomiting, starvation by denial of food, water, and air—which, less than fifty years ago, combined to represent the spirit of orthodox treatment of the sick. To-day it is the boast of the profession that their methods

are diametrically opposed to severe measures. So rapid and sweeping has been this reform in therapeutics that it is imperfectly comprehended by the masses, who are so obdurate in this particular, and so tenacious withal of old time customs and beliefs, that from them the conscientious practitioner who seeks only the greatest good of his patients, is apt to incur disfavor and loss of patronage for his zeal in behalf of milder forms. We are constantly made to feel that it is the influences impressing the senses that sway the multitude, rather than those appealing to the intellect.

The intestinal commotion and brisk purge following the employment of some vaunted pill or compound, conveys to ordinary minds infinitely more meaning than does an hour's philosophizing in favor of safer, more efficient, though less obtrusive, measures.

With the majority the intrinsic virtue of a drug is not measured by the *ultimate* effect, but by the appreciable disturbance immediately secured. After all, the difficulty with which physicians have to contend in this matter is the legitimate fruit of their former erroneous teach-

ings, which time, and precept upon precept, alone can overcome.

While indiscriminate dosing is everywhere objectionable, it is especially so when imposed upon little children. Few objects are more pitiable than the offspring of those parents who habitually resort to drugs upon the slightest pretext, and who, moreover, evince an overweening confidence in their personal ability to prescribe them. It is no marvel that the victims of such pernicious interference are soon in a sorry plight, and unless resolute counter-influences be successfully interposed, the officious parents unwittingly destroy the life they would give their all to save.

Personal observation warrants me in saying that there is not an active practitioner who cannot point to many instances where health, happiness, and life itself have been destroyed through the folly of dabbling with medical preparations warranted to be "safe and sure." Many bereaved mothers sit now in the shadow of irremediable sorrow, the source of which is readily found in the accumulation of empty bottles and pill-boxes which lie around on every hand.

It is in vain that the most forcible reasons are brought to bear upon the devotee of patent medicines. We are constantly brought in contact with mediocre intellects so completely infatuated with the desire to dose themselves, their children or friends with every loudly advertised nostrum, that, blind to the misery produced, deaf to the voice of warning, they pertinaciously continue in their homicidal policy, secretly suspicious of and resenting every admonition. These are the genii who preside over the fortunes of the patent medicine dealers, and we may add, too, that indirectly they sway the fortunes of physicians, for their wretched methods pave the way to professional interference.

From the above remarks the reader must not infer that the author unconditionally condemns domestic medication, for such a deduction would be to a degree incorrect. The judicious employment of drugs by the laity must obtain the approbation of all well-informed persons, but they should ever be looked upon as two-edged weapons, and as such most dangerous in the hands of the untaught and venturesome.

In the administering of medicinal agents we must not forget the important fact that a drug that creates but trifling disturbance in a healthy body, may profoundly affect the system when made impressionable by disease, just as the light of the sun, which is pleasant to the normal eye, causes exquisite suffering to the one diseased.

Then, again, through long and varied experience we are enabled to speak intelligently of the action of certain tested remedies when administered singly; but it is absolutely impossible for human skill to forecast the action of compounded drugs; hence every prescription that combines several botanical ingredients is concocted upon guessing merely, is wholly wanting in science, and uncertain in its action.

In a previous chapter we remarked that all drugs display in the system two distinct actions when administered in toxic doses; these effects being known as the primary and secondary—the one being directly contrary to the other in every detail. More definitely speaking, the first effect upon the organization is its peculiar medicinal action, which ceases when the drug

has expended its transitive force. Then ensues the retroactive effect, which is the abiding, and therefore curative issue; consequently this secondary result is the one to be borne in mind when we attempt cures through the virtue of medicinal agents.

I am conscious of the fault of repetition, and plead in extenuation an earnest desire that my readers may comprehend the vital significance of the principle involved.

It is easily shown that every drug introduced into the system in opposition to this principle results disastrously, since by this blunder we assuredly intensify the difficulties we seek to overcome. Everyone having personal experience with the action of drugs can recognize the soundness of this postulate. Its truth can be shown by reverting to the familiar effects of some drug that has been quite generally tested, as, for instance, some one of the domestic cathartics. In a short time after a full dose is taken, the bowel acts freely, which disturbance represents the primary effect; then succeeds a period of more or less prolonged intestinal inertia (the secondary effect);

and when the bowel next performs its function there is a degree of constipation greatly exceeding that which preceded the catharsis. If in this condition another portion of the physic be administered, of exactly the same quantity as the first, the system responds less vigorously to the primary action of the drug, but the sequelæ show that the secondary action continues in full force—which is proved by the subsequent increased intestinal inertia. There are multitudes of people to-day who are suffering from the lack of an earlier comprehension of this law, for through its transgression constipation of the most inveterate type is induced, and that, too, where no predisposition existed.

This dual action is not peculiar to cathartics or to any class of drugs, but is, without an exception, common to all. The stupor and tranquillity secured by the narcotic is followed by wakefulness and irritability. The exhilaration afforded by the stimulant is invariably succeeded by depression. The arterial sedatives (digitalis, veratrum viride, etc.) for a time restrain inordinate cardiac action, but the turbulent heart is only temporarily subdued, for soon the

primary action is spent, and then the secondary joins forces with the pathological influences, the reinforcement being readily measured by the exaggeration of the heart's action, the pulse counting twenty or even a greater number of beats, every minute, in excess of the rate shown before the medicine was administered.

So much remains to be said regarding the necessity of an intelligent apprehension of the elements of therapeutics before resorting to the use of drugs in disease, that it is difficult to set a limit to our remarks. However, the above should suggest to mothers the real danger involved in the prevailing habit of dosing, and, moreover, the fact should be taken into account that all proprietary drugs and nostrums are prepared according to the precepts of old school doctrine, which relies upon the self-defeating method of depending upon the *primary* action of medicines for the cure.

There is yet another difficulty besetting the task of drawing defining lines for domestic therapeutics. The majority are accustomed to think of the various well-known diseases as so many entities distinguished by arbitrary charac-

teristics and limitations, and, accordingly, a disease is currently supposed to run its course and disappear under certain fixed conditions, uniformly the same in a given number of cases. Hence an individual whose knowledge is limited to the study of one typical case, fancies that all others of this type present the same peculiarities, allowance being made only for degrees of severity. Accordingly, to these minds of narrow experience the treatment of disease resolves itself into a very simple process, for their stereotyped conception of a disease requires a corresponding cut-and-dried form of therapeutics—the measure employed in one successful instance must, as a matter of course, be applicable to all subsequent cases of like nature.

When we study separately a series of cases of any given type of disease, we will find that no two are counterparts, so far as minor conditions and symptoms are concerned, although the characteristics that stamp the type of the disorder tally. To illustrate, take typhoid fever, which most of us have had more or less opportunity of studying. We have seen that

whenever a number of such cases coexist in a community they differ markedly in physical manifestations. One will be delirious, noisy, and unmanageable, the next tranquil and keenly cognizant of his condition; a third overcome with sleep, and can be aroused only with considerable difficulty; while a fourth is tormented with insomnia, and although perfectly lucid in mind suffers tortures from want of sleep, which may not visit him for days or even weeks. We might continue indefinitely to portray the individual phases which this one disease presents, and as other types are in like manner prolific in diversified symptoms, we cannot fail to appreciate the folly of adopting empirical methods in the treatment of any general disease, or, in other words, of prescribing, on the authority of reputed success, one or more drugs in the management of a given number of cases of the same nature, but of varied indications.

Few things in medicine are more objectionable than empiricism, and yet he who loudly and persistently boasts of the marvellous success uniformly attending the administration of some

favorite remedy is, as a rule, favorably regarded by the public.

There exists such a wide disparity between the therapeutic views generally upheld, and the opinions that experience and impartial investigation have constrained me to accept, that I am often embarrassed when presenting views so markedly radical. However, so far as space will admit, logical reasons shall accompany each method advocated, and while many precepts may obviously run counter to orthodox tenets, an unprofitable discussion of technical matters will, as far as possible, be avoided.

My first and controlling desire is to force home to the minds of mothers a full realization of the dangers attending the practice of indiscriminate dosing, even when the remedies are of the system reputed harmless (Homœopathic).

It is fortunate for the little ones that the healing power of nature is often sufficient to overcome both the disease and the effects of mischievous therapy.

To escape confusion and obtain a clearer conception of our argument, a recapitulation of the precepts heretofore set forth is subjoined.

First, disease renders the system more susceptible to the action of those drugs whose effects run parallel to the morbid condition.

Second, every drug possesses a twofold power of action, the primary and secondary, the latter being the curative.

Third, every drug when administered alone in quantitative doses to a healthy person manifests its workings upon the organism through a set of characteristic symptoms, but a combination of two or more drugs destroys all uniformity of action.

Fourth, whereas the various physical disorders are set apart and recognized by the aid of characteristic elements, symptoms, and conditions more or less common to the form of disease, still the individual manifestations of each case are so peculiarly dissimilar to those exhibited by others of the same order that there is no well-defined, constantly recurring set of symptoms by which we may be guided to the adoption of an arbitrary form of medication; consequently we must study each case separately and determine our therapeutics by the totality of indications revealed in each case.

Let us approach our subject from another standpoint. If the second proposition concerning the action of drugs be correct, it follows that to remove a morbid condition of the system we must find and carefully consider all the symptoms which spring from the abnormal state, and then select and administer a portion of a drug which, if given freely in health, would induce a corresponding set of symptoms, as, for instance, a scarlet flush of the skin, sore throat, red and congested fauces, headache, suffused and injected eyes, flushed face, nausea, and febrile condition combined, afford the picture of a familiar disease, scarlatina. Now we turn to our list of remedies and find that belladonna when taken in a poisonous dose, induces nausea, dryness, and soreness of throat when swallowing, mucous membrane of mouth and fauces is deep red and swollen, face flushed, eyes suffused, congestive headache, quickened pulse, scarlet blush on skin, etc. Accordingly we select this drug because it affords a companion symptom picture to that which portrays the morbid state.

Paradoxical as this reasoning may appear, it

supplies the key to sound philosophy in medicine.

We assume the positive ground, therefore, that symptoms are to be regarded as the mode of expression employed by nature to make known her wants, or rather to indicate her manner and the channels she has appointed for the elimination of morbid matter from the system ; hence we will do wisely to heed these suggestions and implicitly follow her lead, instead of instituting artificial measures that thwart her processes. It is argued by some that for every abnormality which may befall the human organism nature has provided the needful medicinal aid, which it is our prerogative to discover ; a plausible hypothesis that time may prove true through fuller investigation.

Reasoning from the above propositions it is evident that a foreknowledge of the action of drugs upon the healthy body is an indispensable requisition to their skilful application in disease. To this end much research, experience, and faithful labor have been devoted to the proving or testing of drugs upon the human body while in a normal state. As a re-

sult, we have a complete symptom record of almost every known medicinal agent, carefully arranged and compiled for ready reference when required for future contingencies. As the list of remedies thus proven numbers between two and three hundred, it is evident that the category of possible pathological requirements thereby met is correspondingly large.

CHAPTER IX.

DOMESTIC TREATMENT OF DISEASE.

IN the preceding chapter were pointed out some of the difficulties besetting the construction of a domestic guide for the application of drugs in the cure of disease, in accordance with philosophical principles as avowed in new-school tenets.

There obtains quite currently a misapprehension of this matter, to the effect that the methods and precepts of this system are notably simple and of ready acquirement. A very natural conclusion in view of the studied misrepresentations of the opposing faction, and more especially the mass of cheap literature created with a desire to benefit the public, but, in fact, constituting a most wretched abortion of a laudable purpose.

To any one who has thoughtfully read the foregoing pages it must be apparent that precedence has been accorded hygiene, as through-

out, I have sought to turn the reader's thoughts from, rather than toward, the use of medicinal agents, not from any lack of faith in the virtue of drugs, but because of the great harm which may attend their misuse.

While acknowledging that the experiences of every-day life demonstrate the desirability of preparing an abridgment of medical treatment in disease, in a simple form adapted to domestic wants, I still insist that such license should be hedged about by rigid limitations so pronounced and arbitrary as to restrain the venturesome from exceeding the bounds of safety. Such a task is not easily accomplished, but the demand is none the less urgent and must be met in a manner calculated to do the greatest amount of good.

The prime motive in supplying popular counsel in therapeutics is more especially to benefit that worthy class in the community who, through adversity, are constrained to be self-reliant in sickness as in other conditions; also for the help of those mothers who are sometimes overtaken by unlooked-for trouble of such a character that the life of the child is in jeopardy at a

time when professional services are not readily available.

Let us now proceed to the treatment of some of the troubles that may befall the nursery.

CROUP.

The appellation originated with the peasants of Scotland, who are accustomed to give to all obstructions of the windpipe the name of croup. The term is really a misnomer, and unscientific, but is retained from usage. The belief is everywhere current that there are two distinct forms of the disease, and in a previous chapter are embodied the essential differentiating symptoms that have been repeated for generations whenever an attempt has been made to describe "croup" in its two accepted types, "Membranous" and "Spasmodic," or the "True" and "False" varieties. In the section referred to I ventured to question the veritable existence of a common disorder which, during many years of active practice, I have failed to discover save in the imaginations of the credulous. I am by no means alone in the belief that those

cases in which membranous formations have appeared, if correctly diagnosed would have been relegated to diphtheritic conditions. It is a fact that now and then diphtheria takes on symptoms closely simulating those of ordinary croup, and, moreover, those cases of diphtheria in which the diphtheritic exudation invades the larynx and glottis always manifest croupous symptoms, and besides, they almost invariably terminate fatally. The author can recall several instances of this nature, in which the diphtheritic exudate forming lower than usual, excited symptoms that might easily have led the novice to an erroneous diagnosis, but to a skilful physician the character of the pulse, high temperature, profound prostration, and general complexion of the case, made misapprehension impossible. I believe that I am fully justified in teaching parents to banish all fear of the formation of a deadly membrane in croup. The obvious partial obstruction of the respiration is due to the following conditions: The chink through which the air enters the wind-pipe, known as the glottis, is relatively narrower in early life than later; consequently,

when the membrane lining the sides of the glottis becomes inflamed and swollen, to a corresponding degree the aperture is narrowed. Add to these conditions a highly irritable or spasmodic temperament, and we have all the elements necessary for the explanation of the symptoms attending the phenomenon,—croup.

Even slight inflammation produces a dry, husky state of the glottis, and as the little one lies sleeping, breathing heavily through its open mouth, the glottis becomes dry and irritated, which precipitates the sudden, spasmodic cough, and as the vocal chords are dry and thickened, and the aperture contracted, the tone of the cough is dry and inflexible, resembling the deep baying of a dog. When the membrane is moistened, the paroxysm subsides, only to return when again dry, or excited by titillation or nervous excitement. Naturally the spells grow more severe and frequent as the local irritation increases, until the catarrhal stage ensues, when the cough loses its dry metallic ring, and assumes a moist or phlegmy character. It is apparent, therefore, that the

affection, although ushered in with alarming and very ominous sounds, is in reality not so formidable as associations have made it, and a case must be very badly managed to terminate fatally.

In the treatment two essentials must be kept in view: First, the exciting cause is an inflammatory or congested state of the membrane about the larynx; and second, the nervous temperament which is usually associated. It is important, therefore, that those in attendance betray no undue excitement, and that the patient be kept as quiet as possible.

Send for a physician, if one be convenient, and it will afford more satisfaction; but there is no actual need provided the following directions be strictly carried out.

Prepare a full bath of warm water (temperature 95°) and have a pailful of hot water standing at hand. Then deliberately undress and quietly immerse the little one, so that nothing but the head is free. Continue the bath from ten to twenty minutes, gradually adding hot water, until the temperature is 100° or 104° . Of course the countenance and breath-

ing must be watched, for a hot bath will sometimes cause fainting.

Awaiting the conclusion of the bath, have ready a large woollen blanket, and woollen undershirt, both well warmed. Dry the little body rapidly and apply two warm, ample, flax-seed poultices (which have been prepared during the bath) over the lungs, both in front and on the back, taking especial care to adjust and properly secure them close up around the neck and throat. Cover with cotton-wool, or a few thicknesses of soft flannel, and secure it well in position with a little jacket and roller, adjusted in form of a figure-eight bandage around the shoulders. All this should be performed before a comfortable fire, rubbing briskly meanwhile. Finally, roll the child up in the blanket, leaving just enough uncovered to permit free respiration, and put to bed in a warm room, with the temperature from 70° to 75° . As the inhalation of cold dry air excites the spasmodic state, if necessary, add to the humidity of the atmosphere of the room by plunging a heated brick in a pan of water. Aconite is a sovereign remedy in this affection,

especially if there be febrile symptoms; hot dry skin, quick pulse, etc.

A favorite remedy, and one that does good service in urgent cases, is the syrup of ipecac; so, if noisy breathing, and dry, hoarse coughing persist, give from fifteen to thirty drops every half-hour until relieved, or nausea is provoked. As a rule, however, the warm bath, a few doses of aconite and subsequent swaddling in a large blanket, and, above all, the careful application of poultices, will subdue the attack, or so modify it as to banish all alarming symptoms.

As the effects of the poultice are an important, if not the chief element in the curative process, and as comparatively few mothers are expert in managing one, we will offer this instruction.

First, secure a material that will retain warmth and moisture, forming a tenacious plastic mass when wet. Ground flaxseed meal meets these requirements admirably, and a quantity should be kept constantly on hand, on account of the unseasonableness of the hour when it is usually needed.

Of this take a pint and stir in enough warm water to saturate thoroughly, avoiding the mistake of too much wetting, for a poultice that drips or runs is a disagreeable failure. Have ready a strip of cloth of such dimensions that when made into a sack it will cover the surface for which the poultice is intended. Spread evenly to the depth of about one-fourth of an inch upon one-half the cloth, then bring the other half over the face of the poultice, and sew the edges together, so as to confine it in a neatly closed sack. The poultice is then laid warm upon the surface, and over it is spread a compress of cotton wool, or several layers of soft cloth (well warmed), in such a manner as to cover considerably beyond on all sides.

Unless a poultice can be properly prepared and adjusted it should not be undertaken at all. Its purpose is that of a warm moist pack, and if not thoroughly protected from the atmosphere and held smoothly and evenly in position, it becomes cold and clammy, displaced, or rolled into an uncomfortable bunch, and so turned into a positive evil.

This is a very important matter for mothers to understand, and the above instructions cannot be too minutely observed. No other one measure in the therapeutics of children, has afforded the writer such satisfactory results as this simple one. In all forms of pulmonary and intestinal affections it is invaluable, and in those gastro-intestinal disorders so destructive, to life in the hot season, it is especially efficient. The torturing thirst, heat and distention of abdomen, are soothed, as if by magic, by enveloping this part of the body in an ample poultice. These salutary workings can be likened to the influence exerted upon a burn or scald by similar soothing application to the irritated surface which protects the terminal nerve filaments from atmospheric or external influences.

DIPHTHERIA.

The premonitory symptoms are, shivering, aching in legs and back as if severely bruised, and great lassitude. The child insists upon lying down, is drowsy, and the face looks heavy and congested. Following the chill, a severe

fever sets in, pulse rapid and bounding, temperature high, ranging from 102° to 106° . The child lies with mouth partly open, breathing audibly, and voice thick. As a rule the patient does not complain of severe pain when swallowing, and the more extensive the patches upon the fauces, the less appears the pain. The peculiar dirty grayish patches are seen upon one or both sides of the throat soon after the fever sets in. There is usually more or less enlargement of the submaxillary glands on the side affected, perceptible externally. As the disease is unquestionably constitutional, and not local, or, in other words, as we have to deal with blood-poisoning attended with great prostration, our task is to neutralize or eliminate the blood poison, and sustain the stricken vital powers by the judicious use of supporting measures. To this end let the patient be well nourished with suitable food. Even in mild cases the recumbent posture and perfect quietude in bed is a wise precaution for the harboring of the strength, which is of the utmost importance, for it is often in the milder forms that cardiac failure appears as a most dangerous sequel.

The chief danger with young children lies in the fact that their delicate vital forces cannot be fortified sufficiently to resist the sudden great prostration. Small indeed are the chances of recovery if, superadded to the morbid conditions which have already profoundly depressed the system, the jeopardized life is assailed (as is too often the case) with noxious drugs, and harsh measures that effectually ruin the powers of assimilation, and beyond question contribute to the destruction of life.

Does any reader doubt this assertion and plead that such cruel malpractices belong to the past, and cannot justly be attributed to the present period of advanced thought? My advice to such an one is to glance through the published doctrines of the orthodox school of medicine, promulgated within the last two years. Turn to pages 720 and 721 of the *Philadelphia Medical News*, June 27, 1885, and there will be found advocated for the treatment of diphtheria, calomel in forty-eight-grain doses, and one hundred grains during the twenty-four hours.

In "A System of Practice of Medicine by American Authors," vol. i., p. 105, Dr. Jacobi avows his custom of prescribing to infants half a grain of corrosive mercury every day for many days in succession. In passing, note that corrosive mercury is one of our most deadly poisons; gr. $\frac{1}{16}$, three times a day for an adult, is regarded the full officinal dose, but here we have gr. $\frac{8}{16}$ given to an infant, against gr. $\frac{3}{16}$ allotted an adult.

On page 576 of the *Medical Record*, May 24, 1884, we are advised to divide eight to twelve grains of calomel into thirty or forty doses, of which one is to be taken every half-hour, "which is apt to yield a constitutional effect." We think quite likely.

Finally, read a very instructive article published in the *New York Medical Record*, December 5, 1885, written by one of the leading members of the New York Academy of Medicine, and read before that body. In this article the author condemns the use of mercuric preparations and extols the liberal administration of the *tincture of chloride of iron*. The author insists that "at least" one drachm (a

teaspoonful) of the tincture be given every hour, and says: "We have given two drachms every half-hour for forty-eight hours, or twelve ounces in two days, to a boy eight years old." Farther on, he states, "the employment of emetics is imperative in young children who cannot expectorate," and since young children never do expectorate, the inference is obvious. Having read the paper, turn to the records of the reported discussion which followed the reading, and note the prevailing sentiment of this assembly of eminent practitioners. The printed minutes testify to that which would be seriously doubted if repeated in these pages. I have been careful to refer only to the doctrines of widely known and acknowledged authorities. Were it advisable, these data could be greatly multiplied.

Those who are not practically familiar with the exceedingly astringent, metallic, nauseous taste of tincture of chloride of iron, can form but slight idea of the suffering which the swallowing of a teaspoonful of this acrid drug inflicts. Let it further be considered that the officinal adult dose is from four to twenty drops,

and also that comparatively few patients are able to persist in the taking, on account of the intestinal and cerebral disturbances arising. In view of these facts, consider a child already prostrated by a terrible disease, forced to swallow, every brief half-hour, two teaspoonfuls, or double the greatest quantity apportioned an adult in twenty-four hours. Superadded to this terrible ordeal, we have, recommended, "an occasional emetic."

We are not surprised at the statement of the advocates of such heroic measures, that "the results are by no means encouraging."

From its earliest days the new school has treated diphtheritic affections with the various forms of the mercuric salts, but always in attenuations, or greatly diluted doses, as, for instance, seldom giving to an infant more than a hundredth part of a grain of calomel. It is not for me to say that the results secured led to the adoption of mercurials by the opposing faction, but one thing is certain, that whereas they have experimented with the same drugs, they have pursued the opposite extreme as to the size of doses, and with results proportionately

disastrous, as health-board statistics testify. Who will deny that a child stricken with diphtheria is not infinitely safer when implicitly entrusted to the healing power of nature than to methods such as we have just contemplated? If personal feeling were followed, the above apparently severe criticism would not appear in this connection, but there is infinitely more at stake than individual interests, and a sense of duty underlies the strictures.

The practice of swabbing the fauces with various astringent applications all more or less irritating is to be discountenanced. It is a fault that in past years I have tested extensively, and I speak authoritatively from experience. If the patient is old enough to gargle, let this be done faithfully, using warm water made slightly salt, and as frequently as the strength will warrant. The hot water constricts the dilated capillaries, thus reducing the congestion, and its cleansing effect softens the exudate and hastens its detachment. Should the skin be dry and hot, pulse rapid and quick with high temperature, give aconite 5 drops 1st x in half a tumbler of water; a teaspoonful every two

hours. If the skin be moist, yet hot, the face having a congested appearance, and the throat presenting a deep red hue, give belladonna.

In my own practice prot.-iod. of mercury ʒd. x trit., has proved the remedy *par excellence* in the treatment of this disease. It should be given from the inception of the attack until the patches begin to loosen. For an infant, give every two hours a one-grain powder dry upon the tongue, alternating it, one hour apart, with any associated remedy that may be called for by the symptoms. Bichromate of potash is also frequently indicated. Either Merc. bin.-iod., merc. cyan., or phytolac—may be demanded. Should there be soreness and considerable swelling of the submaxillary tissues, persistent fomentation with a large hot poultice will be very grateful. A teaspoonful of red pepper mixed with the flaxseed before wetting adds to the virtue of the poultice; vinegar may be used instead of water.

The use of ice either internally or externally is a most culpable practice; applied externally it depresses the forces of life, and when sucked it

ultimately parches the mouth and intensifies the congestion about the fauces.

The sequelæ of diphtheria are, besides the marked prostration, temporary paralysis of the throat, and, in some instances, of the entire body. At one time I had to deal with a case in which this secondary or paralytic condition apparently involved every muscle of the body, even the eyelids and tongue, and yet a perfect recovery was gained. This condition usually appears some days subsequent to the clearing up of all local manifestations, and is as liable to attack simple as severe cases. The one to which reference has been made had not been confined to the bed even a day, and had seemingly made good recovery. When nearly a week had elapsed, the sight, voice, and gait were suddenly found to be defective. The loss of muscular power gradually increased, until at the end of four days the little one lay absolutely helpless, without the power of speech, or even of moving the eyelids. Unless the heart becomes seriously complicated, perfect recovery may be safely predicted. *Nux vomica* and *Phos.*, together with electricity, are the therapeutic

means most frequently employed. Massage properly performed by a healthy nurse is undoubtedly the most effective curative measure.

As diphtheria is obviously an infectious disease, every means should be put into force to prevent its spreading to other members of the household. Direct inspiration of the patient's breath should be guarded against. Parents and nurse should understand that bodily fatigue, or general exhaustion from overwork or worry, renders the system of one exposed especially susceptible to contamination. Of course every means must be used to discover and abolish all probable sources of the disorder—cesspools, defective drainage, decaying vegetables in the cellar, etc. Finally, during the sickness, rigidly enforce the rules for proper disinfection, and upon the removal of the convalescent, have everything that has been in the sick-room thoroughly disinfected. (See pp. 250-252 on this subject.)

TABULATED PRESENTATION OF THE DIFFERENTIATING SYMPTOMS
OF CROUP AND DIPHThERIA.

CROUP.

1. Begins with slight febrile symptoms, resembling a catarrhal cold. Cheeks may be slightly flushed, eyes injected, and cough dry, hoarse, brazen. Voice usually rough and deepened in low tones, but piping and pinched when crying, or attempting loud tones. No evidence of severe constitutional disturbance. There is no marked chill or pain, and no great prostration. Respiration wheezy, roughened and found to be quite noisy when the ear is placed against the chest.

2. An examination of the throat reveals little that is abnormal, the membrane is usually more or less reddened, and to the experienced eye is seen to be thickened. No difficulty in swallowing, and breath not offensive. No swelling externally.

DIPHThERIA.

1. Begins with chilliness, aching, and deep bruised feeling in the legs and loins. Countenance pallid and dull. In a few hours high fever, face flushed, pulse bounding, quick. Desires to lie down. No cough. Respiration only slightly accelerated, sounds heavy, as if sleeping soundly with lips apart. Breath offensive. Voice much thickened.

2. Examination of throat reveals the characteristic patches, more or less extensive, of a white or grayish cast, located on one or both sides of fauces. There may be more or less pain in swallowing. As a rule, however, the difficulty in this particular does not appear till after the removal of the patches. Child constantly endeavoring to swallow, or what is known as empty swallowing. Externally there is swelling under the angle of the jaw on one or both sides.

3. Pulse slightly accelerated in the early stages, but may become quite rapid from nervous excitement consequent upon the difficulty experienced in respiration. Temperature seldom reaches 103° . There are no signs of great general depression, the physical strength is not lessened, no indications of severe constitutional disturbance, and, in fact, the combined symptoms testify that croup is purely a local affection, and when terminating unfavorably the end is one of asphyxia, the patient usually succumbing to the benumbing effects of carbonic acid poison, which condition is due to the restricted respiration consequent upon the œdematous state of the glottis, which may be the sequel of severe inflammation when badly managed.

3. Very high fever, often reaching 105° or 106° . Pulse tumultuous and very rapid in severe cases. The whole appearance of patient indicates the working of a virulent poison within the system, which attacks and undermines the vital forces, threatening the extinction of life through profound exhaustion. When the exudation invades the glottis or larynx, the symptoms of impeded respiration, or croupous manifestations, are persistent, steadily increasing with no well-defined spells of remission and exacerbation as in croup.

SCARLET FEVER.

“Scarlet fever,” “scarlatina,” “canker rash,” are different names of the same disease. It is true, some writers have attempted to differentiate between scarlatina and scarlet fever, and there are practitioners who hold that there is a distinction as well as difference

between the two, but it is perfectly safe to assert that the difference lies in the degree of severity. Accordingly, it is less confusing, when we wish to distinguish between the two extremes, to use the qualifications "simple" and "malignant." That there exists no difference in the *nature* of the two conditions, is evidenced by the fact that a child coming in contact with the lightest form, may develop the most malignant and *vice versa*, which also proves that the severity of the attack depends greatly upon the nature of the soil, or constitution, into which the seeds of infection have fallen. Furthermore, half the members of a family may be stricken with the disease while the remainder escape, which likewise suggests the necessity of a receptivity within the system. While this is peculiarly a children's disease, young infants seem especially exempt, since we rarely find a child under three months attacked with it. Like all exanthematous diseases, the primary irritation or eruption occurs first upon the internal skin, which we call the mucous membrane, and this fact explains to us why, among the early symptoms of this type of disorder, is

nausea or vomiting. At this stage, if the roof of the mouth, fauces, and buccal surfaces be inspected, there will be evidence of this primal internal eruption in the injected and heightened color of the mucosa. If the child be old enough, it will complain first of chilliness, frontal headache, thirst, and sore throat; and, upon inspection, there will sometimes be seen in the throat little white patches, as of milk-flakes, distributed upon the inflamed fauces. To the shiverings and nausea succeed febrile symptoms; the eyes appear injected and glistening, the face flushed, and the skin hot and dry, while the little one is petulant, languid and drowsy. The pulse runs from one hundred and forty to as high as two hundred, according to the severity, and the temperature is correspondingly increased. The duration of this stage is about two days, at which time the characteristic blush appears upon the breast and back, and next on the face, great joints and limbs, successively, until the entire body is covered. The hue of this efflorescence varies from a faint, or bright scarlet, to a deep purple, and the deepness of the blush usually

marks the severity of the disease ; consequently, if we find a purplish tint, we may know without the aid of the thermometer that the fever is intense, and we shall have to summon our best skill to subdue the dangerous congestion. At the height of the fever, in an ordinary or medium attack, the surface presents a smooth scarlet efflorescence.

The aspect of the tongue is also quite indicative. In the early stage it is covered with a thin white fur, but soon tiny red papillæ appear, making it look as though sprinkled with red pepper ; while the edges and tip (on account of the close resemblance) are designated “strawberry tongue.” The rash lasts about four days on an average, and then disappears gradually, in the same order in which it came. This is known as the period of desquamation, and the severity of the peeling is determined by the intensity of the fever. On some parts of the body (palms of hands and soles of feet) the shed material peels off in large flakes, while on others (back, abdomen, thighs, etc.) it escapes in dust so fine as to float in the air of the room, to settle upon remote objects—

clothing, open trunks, etc. ; and in this way germs of the disease may be transported to any distance, and it may be at any remote future period.

Scarlet fever is unquestionably the most formidable disease of childhood, for not only are its ravages marked by a large percentage of deaths, but it is estimated that nearly fifty per cent. of those surviving are left the victims of some serious disablement, more or less abiding, and frequently loathsome as well as incurable. The most common of these after-conditions are affections of the ears and kidneys, and to treat of either one of these thoroughly would involve us in too lengthy a discussion. These cases should be confided to a skilled physician, and with this suggestion we must leave them, after a passing comment upon the nephritic complication,—Post-Scarlatinal Dropsy. The evidences that the kidneys are affected are suppression of urine, puffiness of the face, especially beneath the eyes in the morning, and swelling of the feet in the evening. For the relief of this condition : even, warm protection of the body, bland food, plenty of distilled

water, or that which the author prefers, Poland spring water, and for a medication arsenicum alb. 4th x. dil., a drop every two hours. Against the deplorable practice of syringing diseased ears, so widely commended, I cannot refrain from entering a protest. Myriads of little unfortunates have been rendered hopelessly incurable by this destructive practice. In cleansing the auricular canal of the offensive discharge, with the utmost gentleness wipe and dry with a very small soft mop, made of prepared cotton twisted around the point of a wooden toothpick, in such a manner that the cotton extends considerably beyond the end of the stick. After drying anoint with an ointment composed of vaseline one ounce, pulverized borax ten grains. Do this so deftly as never to excite the slightest pain, and not oftener than once a day.

MANAGEMENT OF SCARLET FEVER.

Place the patient in a well-ventilated, cool room, the temperature of which keep as near sixty as possible. Give light, plain food—bread

and butter, gruel, milk, etc. Do not be persuaded into torturing the patient and deranging the digestion by drenching the stomach with forcing drinks. Keep the patient comfortable and quiet, and wait patiently until the end of forty-eight hours, when the rash will be found "on time." On no consideration physic, or administer laxatives. Let the patient drink freely of water, a little at a time, but avoid iced water, or the sucking of ice, as either one of these will increase the nausea, add to the thirst, and increase the parched state of the mouth and throat. Hot or warm water will always allay thirst much more effectually than cold drinks. If there be high fever and restlessness, sponge the soles of the feet, the hands, and spine with quite warm water. The sovereign remedy is Belladonna. It is my custom to give belladonna 3d x one drop every hour for six hours, and then omit six hours. During the interim give aconite same potency, providing the skin is dry and hot, and there is considerable fever. If, however, the attack be light, be content with watching the symptoms, and giving an occasional dose of belladonna. Above all, re-

frain from overdosing, and to this end bear in mind that mischievous interference is the most fruitful source of unfavorable terminations.

To prevent the spread of the disease, if possible let one attendant be allotted the sole care of the invalid who is quarantined, and all visiting prohibited. The nurse should wear a large cotton wrapper, which is removed upon leaving the room. For after-disinfection of room and clothes see p. 250.

MEASLES.

This disease is currently regarded as belonging to childhood, but, unlike scarlet fever, is not restricted to children, as any of us can recall instances of its occurrence in adults, even those in advanced life. Moreover, it is worthy of note that the severity of the attack seems to be in direct ratio to the age of the patient. The disorder is highly infectious and epidemic. It is far more readily and widely propagated than scarlet fever, and few children will escape if directly exposed—that is, if they breathe an at-

mosphere contaminated with the exhalations of an existing case. Symptoms: The early symptoms of the disease are those of influenza or acute catarrh. Hoarse, harsh cough; sneezing; eyes red, watery, and eyelids look swollen; more or less fever, and gastric disturbance. This condition lasts, with slightly increasing tendency, for three or four days, when the eruption makes its appearance on the skin. Previous to appearing externally the eruption has run its course upon the mucosa, as an early inspection of mouth will show. (Hence cough, nausea, and catarrhal manifestations.) The rash appears externally, first on the face, which looks swollen, next upon the body, and finally upon the legs. If examined closely, the eruption is first in the form of half-moon spots which run together and form blotches slightly raised above the healthy surface. Its color varies from the tint of a ripe raspberry (the favorable sign) to a dark purple (which is unfavorable). About three days are required to fully complete its coming out, and after remaining three or four days, fades gradually, the fever declining at the same time. The attack has usually

reached its climax on the fifth day. In an ordinary case the thermometer registers 103° , and, as it varies either way, the case is mild or severe. The only disease with which measles is apt to be confounded is scarlet fever. The following differentiating indications will clear up all doubt in diagnosis.

SCARLET FEVER.

1. Requires only five to seven days' incubation, that is from date of exposure.
2. Eruption appears the second day after the onset of the attack.
3. No inordinate coughing or sneezing.
4. Rash fine and smooth, beginning on the chest, and resembling a boiled lobster in color.

MEASLES.

1. Appears fourteen days after exposure.
2. Eruption appears fourth day after attack.
3. Severe catarrhal symptoms, hoarse coughing, sneezing, coryza.
4. Rash appears first on face close to hair; is slightly raised, and looks blotched.

The unfavorable consequences of measles are affections of the air-passages or bowels, especially when the patient is predisposed to tubercular disease. The eyes and ears likewise are the seat of subsequent irritation in delicate, strumous constitutions.

TREATMENT.

Keep the patient in a moderately warm (70°), well-ventilated room. Never administer laxatives. Pulsatilla is universally considered the prime remedy.

Phosphorus is preferable if the cough be dry and hollow, and the patient thin and predisposed to stoop. Should the appearance of the eruption be long delayed, with evidence of considerable congestion, give a warm bath, after which keep well wrapped in a large blanket. Since the severity of the disease unquestionably increases with age, and as few escape an attack sooner or later in life, it is wise to precipitate it as early as possible. With infants it is scarcely worse than indisposition from a severe cold. For some weeks subsequent to recovery the convalescent must be protected from exposure to chills.

WHOOPIING-COUGH (PERTUSSIS).

This is a very troublesome, though rarely fatal, disease. It evinces a special predilection for children under three years of age, and unfort-

unately, the younger the child the more severe is apt to be the attack; it behooves parents, therefore, to guard against, or postpone the disease until the third year, if possible. There are no well-defined limits of duration; it may last from two weeks to six months. Although ranked as a child's disease, it may develop in the parents, or even grandparents, of the children affected.

The first symptoms are those of ordinary catarrh, with spells of coughing and an occasional sneeze. This first stage may last a week or ten days, during which time the nature of the disturbance is in doubt; at the end of this time, however, the "fits" of coughing recur at shorter intervals and increase in severity until, ere long, a distinct "whoop" terminates an unusually severe paroxysm of coughing, and all doubt is banished. Between these paroxysms the little one seems bright and happy, but soon learns to dread a recurrence, and struggles to suppress it; but when the disease is in full force is powerless to do so—the diaphragmatic impulses succeed each other so rapidly, allowing no opportunity to

breathe. The face becomes congested, the eyes run over, and when all air seems utterly spent the lungs are refilled with a prolonged crowing inspiration, to be once more driven out through a succession of rapid diaphragmatic impulses till the child seems on the verge of strangulation when suddenly a gush of phlegm and ingesta is ejected, and the little sufferer, very much fatigued and frightened, has one spell less to endure. If at any time during the height of the disease the ear be laid to the little chest, a combination of peculiar respiratory sounds will be heard. The treatment consists in giving the indicated remedy, protection from fresh attacks of cold, living in the outdoor air when pleasant, together with care that the child is held properly (partially prone) during the paroxysm.

PNEUMONIA, OR INFLAMMATION OF THE LUNGS.

On page 123 will be found a description of the prominent physical symptoms attending the early stage of this affection, which is everywhere, and with good reason, regarded as a most formidable one. The appalling ravages

of this disease unquestionably are largely due to the wretched methods employed in the treatment. This is a graceless statement, and deep solicitude for the welfare of the suffering, could alone move me to make it.

The barbarous methods of salivation, bleeding, and starving, have been superseded by others hardly less objectionable so far as results extend. The cruel blistering is still practised by many, but although this is a harsh and painful procedure, it does not interfere with, or undermine the vital forces. The most reprehensible feature of the modern orthodox treatment in pneumonia is the free use of quinia and opiates, quinia to crush the fever, opium to allay the pain. No more deadly drug combination for the treatment of pneumonia could be devised. While this medication secures the lowering of animal heat, and freedom from pain, it at the same time interferes with or blocks the excretory processes, and checks the functions of all the secretions save that of the skin, consequently nature is handicapped. The patient lies comparatively free from pain, with cough checked and temperature lowered ;

but all this time the deadly work is going on within, the fatal deposit is extending and lessening the area of free lung texture, and the result is that soon the portion of the lungs left uninvaded is too limited to perform the duty which devolves upon the normal lungs, so one more death is added to swell the percentage. It becomes us to look at the matter logically. Pain is not our worst foe ; on the contrary, it is a beneficent monitor in many ways. Remove it, and we are lulled into a dangerous sense of security. Likewise cough is nature's way of freeing the lungs of superfluous secretion. It is an easy matter to suppress a cough by the use of an opiate, but is always dangerous and delusive. Moreover, an exalted temperature and accelerated pulse, up to a certain limit, have their serviceable significations, telling of necessary achievements in the life-saving process. Infinitely more commendable is the expectant method, where inactive we stand aside and reverentially study the workings of nature, than to work deadly havoc by ill-chosen, perverted measures. It may seem to savor of boastfulness, but such is not intended when I state that

during the last fifteen years of active practice I have had to record but one death from pneumonia, and that the case of an habitual drunkard. While I have no account of the number of cases treated, it is probable that I have had my relative proportion—at one time seventeen cases, all in the active stage. In extenuation of this personal allusion I will state that it is introduced as a commendation of the very simple course that has served me so well. I have never given, in a case of pneumonia, a single dose of quinia, morphine, cathartic, or alcoholic stimulant, nor applied a blister. The medicinal remedies chiefly relied upon are Aconite and Lobelia, with the accessories Bryonia, Phosphorus, and Belladonna.

As soon as the symptoms have declared the invasion of the disease, soak the lower limbs for ten or fifteen minutes in water as hot as can be borne, during which time prepare a generous poultice. This apply and keep warm, covering both back and front of the thorax. Of course put the patient to bed and keep him quiet. Mix five drops of tincture of lobelia in twenty-five teaspoonfuls of pure cold water in

one tumbler, and two drops of tincture of aconite in another, with like amount of water. Administer alternately a teaspoonful every hour. (We are treating in fancy a child of ordinary conditions, say one year old.) Pursue this treatment until the acute stage has softened, *i.e.*, until the intense fever abates, and the symptoms of severe acute pain subside, which will require ordinarily about twenty-four hours. Should the cough now be dry, the nostrils play with each respiration, a round crimson spot appear on one or both cheeks, give a few doses of phosphorus. Mix five drops of the 3d x. in half a tumbler of water, and give a teaspoonful every hour for six hours, at the end of which time discontinue the phosphorus and resume the lobelia, with or without the aconite, as the fever may indicate. If there be present catching or stitching pains, suggestive of pleuritic complications, bryonia of the same strength as the aconite mixture has the precedence until the sharp pain be subdued. Violent headache, with unmistakable evidences of a congested condition, calls for belladonna.

In favorable cases, after the first three or four

days the inflammatory condition subsides, and the period of resolution or absorption of the lymph deposit sets in. Very commonly the patient lies quite comfortable, with only slight discomfort felt in the affected side (for, as a rule, only one side is invaded, a most fortunate provision of nature), and an occasional short cough and fever are noted, the fever exacerbating every afternoon and evening, abating after midnight, until by morning little is manifest. Thus for perhaps a week matters progress, when suddenly an intense fever prevails for a few hours, which as suddenly disappears, and with it the dulness which has marked the diseased or infiltrated portion of the lung. However this sudden absorption of the exudate (the product of the early inflammation) is not the usual way in which the hepatization is cleared up, for in the majority of cases it is a matter of gradual restoration, and little by little the area of dulness over the lung grows smaller till the normal resonance and respiratory murmur pervade the entire organ. The disease usually requires from its invasion till the regaining of full use of lung two weeks. In severe cases, espe-

cially if the reactionary powers be feeble, a much longer time may be needed. Let the diet be plain and nutritious, and bear in mind that the amount of food must be greatly decreased during the active or acute stage of the fever, since a full diet will relatively increase its intensity.

PLEURISY OR PLEURITIS, PERITONITIS, MENINGITIS, SYNOVITIS.

All cavities within the body not communicating with the surface are lined with a delicate, smooth membrane (serous), which is also reflected or continued over and enveloping the contents of each cavity. Although the membrane possesses the same characteristics throughout, it goes by different names in different locations. Where it lines the cavity of the joints it is termed the "synovial membrane;" the abdominal cavity, "peritoneum;" the chest, "pleura;" the skull and spinal canal, "meninges." In health it is remarkably smooth and devoid of sensation, and with every movement of the body, or shifting of the organs it enwraps, the duplications glide to and fro against each other painlessly. When, however,

inflammation invades, the glistening, smooth membrane becomes congested, thickened and rough, and so exquisitely sensitive that everything which causes the duplications to rub each other excites excruciating pain, which is always recognized by its sharp, catching, stabbing character. The inflamed condition is designated "synovitis," "peritonitis," "pleuritis," etc. As this membrane rarely suffers from disease in early life, we will only state that the sovereign remedy for the relief of its inflammation in any locality is bryonia, with the accessory remedy, aconite, when it is demanded. The patient should be kept quiet and warm in bed, and the cutaneous function promoted.

MUMPS (PAROTIDES).

This is an inflammatory affection of the large salivary gland, situated at the hinging of the jaw; hence the pain and restriction attending its movement during the disease. The gland swells more or less, sometimes attaining an enormous size, the centre of the enlargement being located directly in front of the lobe of the ear. Both sides are rarely attacked simulta-

neously, but the disease usually invades one side, and in a few days the other. It is infectious, and rarely attacks a person more than once. The early symptoms are malaise, tenderness, or sore, constricted feeling at the maxillary joint, aggravated by motion, and especially increased by anything which excites the function of the sick gland; as, for instance, acids or sweets. This pain is somewhat intense. There is always slight fever attending the first few days.

The treatment is simple and chiefly hygienic. Keep the patient quiet within doors, for the purpose of preventing exposure to damp or cold, for therein lies the only danger, such mishap often causing metastasis of the inflammation to the mammæ in girls, and to the testicles in boys. At one time the writer had to deal with a case of metastasis to the brain, provoked by lying upon the ground. The patient remained violently delirious for over a week.

The remedies suggested are Merc. sol., for the relief of highly inflamed enlarged glands, Aconite for fever, Belladonna for metastasis to brain, Pulsatilla for metastasis to testicles or mammæ.

Boys should be kept quiet indoors. Should the inflammation be severe, and the swelling tense and painful, use topical fomentations during the height of the disease.

INFANTILE DIARRHŒA.

In the management of all functional diseases within the body, it behooves us to search first for the cause, for a functional disorder is not the effect, that is, the disease *per se*, but the result or expression of the morbid element. There is everywhere apparent the short-sighted disposition to regard diarrhœa as an independent disease, even as diphtheria or measles are looked upon. The laity cannot be sharply criticized in this matter, when we consider how commonly physicians lapse into the same error. Whole books have been written upon this subject without containing a single philosophical deduction which would lead the reader to occupy a common-sense standpoint in the treatment of this simple functional disturbance, which nine times in ten can be traced to some palpable indiscretion. What can be more absurd than the compilation of a multitude of symptoms dealing

with the variety of stools, their various tints, consistency, times of day, odor, accompanying sensations; and so on, ringing the changes upon the endless combinations into which the symptoms may be arranged, and thus piling chapter upon chapter, without once directing the attention to a rational solution of the matter?

We know full well that the diarrhœas of children afford an infinite variety of phases; that they may be associated with febrile symptoms, and also be devoid of fever; inflammatory and non-inflammatory; profuse and scanty; painless and painful; simple and dysenteric or choleraic. All conditions must of course be taken into account fully and intelligently, but our first duty is to go to the fountain-head, and seek the transgression of which the existing condition is the penalty. When this is done we will find the violation of dietary laws will in one case give rise to one form, and in another an entirely different form of intestinal disturbance, and it follows that the mere regulation of alimentation will succeed in correcting numerous forms of diarrhœa without the intervention of carefully selected medicines. I am anxious to drive this

truth home to the minds of mothers, and, if possible, dislodge the blind policy (so commonly followed) of beginning at the wrong end of the matter. The followers of one school are ever hunting up some "indicated" remedy, and those of the other plying some "diarrhœa mixture" or "cordial," while none of them stop to reflect in what way they may dispense with remedies entirely through seeking out and correcting the underlying trouble. It would be much easier and far more popular to pursue the beaten track, and compile a chapter of symptoms for the adherents of one school, or to set forth formulæ of "cordials" or specifics for the other. This would spare the reader intellectual effort, always a politic consideration on the part of the writer, but it would not secure the best good of the little ones.

To come, then, directly to the root of the matter, I shall insist upon the attainment of the first requisite,—an intelligent comprehension of the process of assimilation. This is the central pivot of our subject, upon which all minor considerations revolve. Then instead of investing the symptoms with undue importance and con-

stituting them the disease, view them simply as the expressions of nature in her efforts to maintain a healthful equilibrium.

The first step in the direction of our duty is the regulation of the diet, in conformity with physiological laws, and the second is to assist nature in correcting the mischief which our carelessness has wrought, providing we are sure that the indications have been interpreted aright. Let us suppose that the diet has contained starch before saliva has appeared; then it is probable that nature is laboring to purge this irritant out of the body. Or, supposing that the delicate stomach has been overworked, and undigested curds have been forced along unprepared into the bowel, where they act as offending or foreign matter, or it may be that, through suppression of the skin function, the mucosa lining the intestinal canal have become congested, and the surcharged vessels and glands seek relief through this form of depletion; these and many other exciting causes may result in an increased action of functional derangement of the intestine. Now what is the sensible course for us to take? Shall we give

a dose of "chalk mixture," or some other constringing "cordial" or "diarrhœa compound?" By so doing we can surely check the flux, but would it be wise to lock up within the irritated canal that which nature has declared obnoxious and is seeking to expel? Does it not rather appeal to our common sense to select some drug that would imitate nature as near as possible (if given in health), and administer of it a small dose—not so large as to outstrip nature, but barely sufficient to join in sympathy and aid her methods? Whether we approve or no, the fact remains, that a small dose of a laxative, given for the relief of an intestinal catarrh resembling that condition which would follow the administering of large doses of the drug, will most speedily and effectually cure the morbid condition. I do not hold that to treat diarrhœas successfully it is absolutely necessary to be hair-splitting in exactness in the selection of a laxative that would produce a state precisely the counterpart of that presented for treatment, for I know that considerable latitude is admissible, as, for example, a few small, successive doses of castor-oil will succeed in curing the

majority of diarrhœas though differing widely in complexion ; all I claim is that the closer the drug-selection is made the smaller is the dose required, and the speedier will be the cure. These remarks are calculated to be broadly suggestive, for it would be utterly impossible to take up separately all the phases that may attend intestinal catarrh. I have sought only to present the central thought, for when the cardinal principle of a subject is grasped, the accessories are readily evolved.

In another section will be found an allusion to the value of poultices for the alleviation of internal inflammation, and it will not be amiss to repeat here, that a properly applied poultice is an indispensable adjuvant in the treatment of acute diarrhœas attended with thirst, hot skin, abdominal tenderness, tympanites, etc. It should be ample in size and thoroughly secured, otherwise it fails in its object, and is only a source of annoyance.

DYSENTERY OR DYSENTERIC DIARRHŒA.

This is an extremely painful and fatal disease with young children. It is apt to prevail

during the autumn months, or at the time when the days and early part of the nights are warm, but toward morning the temperature drops to the neighborhood of freezing. Through carelessness, the little one, who has been uncomfortably warm the first few hours of the night, has been allowed to kick himself naked, is subjected to a severe chill while sound asleep; the cutaneous exhalations are effectually suppressed and driven inward. This is followed by violent internal congestion, manifested in the form of dysentery.

A distinction must be made between this affection and simple diarrhœa, for quite commonly a mother will state that her baby is sick with dysentery when, were she properly informed, she would have designated it simply as diarrhœa.

The seat of this acute affection is obviously in the large bowel or rectum, but there is always associated considerable constitutional disturbance, intense fever, insatiable thirst, nausea, great irritability, etc. The first few evacuations are usually copious, resembling profuse diarrhœa, but these are soon followed

by smaller dejections, more urgent, and pre-saged by more or less pain. The symptoms speedily increase in severity, soon very little fecal matter is voided, and this is mixed with slime or mucus. At this stage the little one evinces great reluctance to quit its chair and persists in making expulsive efforts. In a few hours this straining becomes involuntary, and the child is utterly powerless in the paroxysms of tenesmus, at which time the breath is held, the face will become livid and terrible to look upon, and at each effort as the little one strains and presses downward, the greatly congested bowel is forced out of the body. At this stage scarcely anything passes except a little gush of horribly offensive watery, slimy, matter, which is immediately succeeded by the tenesmus which forces out a small quantity of slime and blood, which would seem to be wrung out of the inflamed intestinal wall. When this condition is reached recovery is well-nigh hopeless. To cope successfully with this terrible disease requires that it should be brought under control before it has thus seized upon and mastered the vital forces. It is usually through

mismanagement that dysentery succeeds in gaining this ascendancy. In the majority of fatal terminations the administration of opium in some one of its preparations has been the chief prejudicial element. The present contemplates with commiseration the practices of the past generation, who bled their emaciated consumptives in all good faith. So may we safely predict that the time is near when the present use of opiates in the treatment of intestinal flux will be equally deplored.

In the management of this terrible disease, our first endeavor should be the full restoration of the cutaneous function, and for this nothing surpasses the hot bath, and small doses of aconite. At the same time, unload the bowel by giving from twenty to thirty drops of pure castor oil, abetting its action by the administration of a warm enema of starch. It is likewise of vital importance to engage the active co-operation of the renal function, and to this end there is no more efficacious adjunct than gum-arabic water, which allays the inordinate thirst, checks intestinal peristalsis, and promotes the secretion of urine. Mix a teaspoonful in a

half-tumbler of warm water, and give a teaspoonful of this mixture every hour, or even oftener if the thirst be great. It should always be warm when nausea is present, as cold liquids and especially the sucking of ice will aggravate the gastric disturbance and intensify the thirst. In an attack of dysentery the extremities are invariably cold and livid, and especial attention must secure their warmth.

Merc. cor. is invaluable in the cure of dysenteric conditions. Hot starch injections are highly commended, but they require to be used gently and with proper discretion. The diet should be scalded fresh milk, to which is added one-fourth the quantity of lime water, as the formation of curds must be prevented. During the season favorable to the development of this disease, the mother should be vigilant in guarding the young sleeper from exposure and chills.

PROLAPSUS ANI,

or falling of the lower bowel, is an abnormality characterized by a protrusion of the gut through the anal orifice, and is brought about

by severe constipation and consequent habitual straining at stool. It is usually associated with a lax-fibred or delicate patient. The treatment consists in the removal of the cause (habitual constipation) and preventing the child from sitting unnecessarily long on the chair. After a movement of the bowels, the protruding portion should be bathed carefully with quite warm water, using a soft sponge with great gentleness, and, just before pushing the bowel back, dip the sponge in cold water, and so give a constringing final dash. This treatment is all that is necessary, provided it is faithfully carried out.

UMBILICAL HERNIA.

Umbilical hernia is a very common affection of young children, and consists in the imperfect closure of the umbilical or navel ring, which allows the intestines or bit of the omentum to protrude through. The abnormality is readily cured by obtaining a piece of sheet lead, or an ivory button about the size and shape of a silver dollar, which make slightly convex, and with a neatly fitting band fasten over the tumor. This should be worn three or four months.

HABITUAL CONSTIPATION.

Obstinate torpidity of the bowel is not infrequently a very troublesome condition with young children. In the majority of cases it is the penalty exacted by nature for trespassing upon her domain with physic. In the old régime, the belief was rife with all the monthly nurses, that a dose of castor oil was indispensable to the proper inauguration of life; consequently, without any other reason, a child scarce a day old must be physicked. One dose paved the way for the next. The custom was condoned by the physicians, and it is not strange that mothers followed in these same steps, partly from seeming necessity and partly from popular custom and belief. Not one child in a hundred would require "opening" medicine were laxatives rejected from the beginning. It may be true that children inherit the tendency, but I question it. Granted that one or both parents may have been life-long sufferers from this trouble, but all the proof they can adduce is that from birth, perhaps, they too had been the victims of physic, which makes it all

the more reasonable to believe that the habit, not the disease, has been transmitted. See to it that no "opening" medicines be administered to the little ones. Depend upon it that here is found the originating as well as perpetuating cause of all the trouble. Supposing the little one is constipated, it does not justify turning into the delicate alimentary canal, a vile drug which acts by virtue of its irritating properties and arousing nature's forces for its speedy expulsion. For a cathartic to accomplish its end it must needs first create a disturbance, or irritate the intestinal textures, and in proportion to this disturbance will be the intestinal commotion for its ejection. A glimmer of this truth has touched the minds of many mothers, and the enema has been substituted, a most pernicious makeshift, through which the worst forms of constipation are established. It is not unusual to have to deal with pale, nervous, unhealthy-complexioned women and children, who have not had a movement of the bowel for years without first having resorted to the use of the syringe.

The condition following upon the action of

either a cathartic or an enema is that of constipation, and the longer either one is used the more inveterate becomes the consequent torpor. After the syringe has been resorted to persistently for a time, the muciparous glands, whose function is the secretion of the intestinal juice which lubricates the lower bowel, becomes inert, and in time, through inaction, atrophied, rendering the rectum absolutely passive. The question may be asked if I would prohibit unqualifiedly the use of both syringe and cathartic. Most certainly I would so far as treatment for the *cure* of constipation is concerned, since by resorting to either we add to the difficulty opposing us. On the other hand I recognize fully the legitimate use of means for clearing the alimentary canal of offending matter, which at the time threatens the safety of the person, as has been repeatedly explained in these pages. The other field in which their employment is commendable, is in the management of diarrhœas. The treatment of constipation resolves itself into the following suggestions: First, the regulation of diet. Should the child be an infant in arms, mix with its milk a little

molasses or flaxseed tea; shampoo the abdomen, and, provided the child be not already the victim of indiscreet dosing, the bowels will respond. If the child has attained the age when gruels are admissible, a few daily allowances of rye meal gruel, thoroughly boiled and strained, will usually be effective.

The judicious use of plain molasses, flaxseed tea, or what is better, a teaspoonful of the whole seed swallowed with milk, if the patient is old enough.

An especially faithful, punctual observance of the effort at an established hour, whether there be felt the promptings of nature or not.

The remedies most often available are Nux vom., Bryonia, Phos., Sulph. See "Indications."

INCONTINENCE OF URINE.

Wetting the bed at night is a very common and vexatious habit in childhood, for which time and patience are the best remedies. Harsh punishment, so often resorted to in the lower classes, is unpardonable, unless the child be wittingly and persistently dirty. As a rule however, the little fellows are greatly

chagrined, and if old enough will relate how in a dream they exerted themselves to the utmost to leave the bed, and believed they had succeeded. I have never yet found a child, old enough to talk, who was not eager to adopt any regimen (within reason) whereby he might escape the humiliating weakness. The mother should always explain the matter to him, and secure his hearty co-operation. The most successful treatment is abstinence from liquids and liquid food as entirely as possible through the after part of the day. All that is needful for health should be taken during the first two-thirds of the day, but for the remaining third let the diet be dry bread and butter. It is surprising that the body will so readily accommodate itself to every habit, and here as in other matters the desire soon vanishes with the persistent refusal. The habit of waking at some stated hour for the relief of nature should if possible be established. Every morning and evening bathe the back, loins, and groin, with a sponge dipped in cold water, this measure followed by brisk drying and shampooing. Concerning internal medication I know of noth-

ing reliable. Bell., Canth., Equisetum are generally recommended.

SPASMODIC CONVULSIONS.

Let us next suppose a case of suffering from general hyperæsthesia induced by severe and protracted teething. The usual gastro-intestinal disturbances prevail, and the little one is worn and excitable. After a severe fit of crying, or perhaps while falling asleep or during sleep, there appears an unusual slight twitching of the muscles of one or both arms, or of the face; or after remaining motionless a while, he will spring, as if frightened at an unexpected noise. The eyes are staring, with now and then a rapid quiver. The limbs are found to be slightly rigid, the thumbs usually flexed into the palms of the hands and clasped tightly with the fingers. Extremities often cold and livid, and the head hot. The respiration is sighing, as though the chest felt oppressed. All these symptoms are intensely significant. It is an agonizing sight to a mother, that of her baby writhing in convulsions, and at the time it seems almost mockery to counsel calmness and

deliberation, but there is great necessity of acting quickly and collectedly when the earliest indications of a spasm have been detected, since by the opportune employment of correct measures the evil will be overcome, and a panic averted.

To restore the equilibrium of the circulation is the first desideratum, and this is accomplished most speedily and effectually by placing the child immediately in a hot bath of say 100° to 104° . If a tub is not available, place the child's legs in a bucket of warm water and hold hot cloths about the hands and arms or hold them in a pan of warm water. In the mean time search for inflamed or tensely swollen gums, and when found do not hesitate a moment in liberating the imprisoned teeth by making a free incision with the point of any sharp cutting instrument. Again and again I have banished instantaneously threatened attacks of convulsions by this simple procedure. Do not fail to devote proper attention to the condition of the intestinal tract, for in all probability the climax in the nervous erethism was brought about by some indiscretion of diet, and

one or two teaspoonfuls of syrup of ipecac, to induce vomiting, will often bring to light irritants in the form, perhaps, of firm, tough curds, or, more likely, a fermenting mass due to culpable feeding with crumbed crackers, biscuit, cake, or other objectionable matter. If the child has been constipated, a teaspoonful of castor oil and an enema of warm water will complete the clearing out of the intestinal tract. After the bath, rub the hands and feet briskly and put the little patient in a warm bed in a quiet, darkened room, and prevent lying on the back. Seldom is other medication needed ; but as the mother values her child's life she must protect it from the pernicious drug opium in all its forms. *Nux vomica* 3d x., a few doses, will be of benefit.

HIP-JOINT DISEASE.

As deeply as possible I wish to impress parents with the fact that although the treatment of hip-joint disease does not come within the province of domestic therapeutics, nevertheless its course and termination depend chiefly upon the attention accorded the initial stage,

which too seldom comes under the eye of the physician. The same history, with but slight variations, is repeated over and again, by the great number of unfortunates whose life-long sufferings must pay the penalty of early mismanagement or neglect. The premonitory periods of distress have been counted "growing pains," or more often looked upon as attacks of rheumatism which rest and indifferent medical treatment have allayed from time to time, until finally an exacerbation unusually severe has unmasked the terrible disease, which too often has ere this taken on textural change, more or less enduring. It is often the case that the early misfortunes are still further intensified by incompetent professional treatment. Ultimately the case is sent to an expert, but not until it has passed into the category of incurables. Notwithstanding the warning which these unfortunate cases everywhere afford, blind unconsciousness of impending danger is as commonly seen to-day as fifty years ago.

It is never safe to disregard the slightest lameness, or painful locomotion in children, where the cause is in doubt : neither is it always pru

dent to entrust the case to the sole care of the general practitioner, who often fails to recognize the special and frequently obscure indications of hip-joint disease. In a previous section (p. 121) some of the early indications have been alluded to, but they are of such vital moment that we can well afford to review them: A disposition to trip often; in ascending stairs the diseased leg follows, in descending precedes. There is usually an inability to place the foot of the affected leg upon the opposite knee when sitting. The pain is commonly referred to the knee cap, instead of hip. About this time, if the circumference of the legs be compared, the affected one will be found the smaller, and its flesh tint will usually suffer by comparison. Of course it must be understood that we limit our present remarks to the earliest indications only. The more striking and familiar symptoms commonly associated with the disease belong to the later stages, and are here irrelevant. The duty of parents in the direction of treatment is plainly indicated in the text.

ECZEMA-CAPITIS—MILK-CRUST—SCALD-HEAD,
ETC.

The subject of skin diseases is one so extensive and peculiarly complicated, that we shall make no attempt at its discussion ; therefore our remarks in this direction will be restricted to the following observations upon an anomaly quite commonly existing in childhood as a complication of dentition. It is commonly known as "scald-head" "yellow crust" "milk crust" and "tenia capitis." Generally, it begins as a small pimple or abrasion on the face, scalp, or around the ears, and is quite insignificant in appearance during this early stage, but the itching is considerable from the first, and the child naturally scratches, thus spreading the irritation rapidly, not only through continuity, but seemingly by inoculation in fresh spots. Before long the separate patches approach and run together until a large scab, which may involve the scalp, or the entire head is formed. At first the abrasion or pimple presents the appearance of an inflamed, moist, broken spot on the skin, but in a short

time the limpid, sticky exudation dries into the form of a yellow crust ; hence the name. In severe cases this crust is so extensive and thick that it covers the scalp like a cap. The scab lies loosely upon the surface for the reason that interposed is the moist secretion, which is constantly exuding, and collecting as fresh relays of crust. Although this is an affection generally of the head and face, it often invades the hands and flexures of the joints. Very often the disease proves quite obdurate, resisting for many months the ordinary methods of treatment. It is only natural that parents should look upon the unsightly affection with disgust as well as intense solicitude, and that their absorbing thought should be the banishment of the offensive eruption, and it is not always possible to dissuade them from making applications of harmful medicaments for the sole purpose of drying up that which is unquestionably one of nature's means for the venting of morbid matter from the system. It is particularly suggestive to note that the general health of a child afflicted with an extensive cutaneous eruption is, as a rule, exceptionally good. If, however, this be

suppressed suddenly, internal affections generally appear, showing that there has been a metastasis of the noxious exhalations from the surface inward. The morbid element may now invade the mucous membrane of the intestine, or lungs, the peritoneum or pleura, or the cerebro-spinal investments may be complicated, and in some rare instances synovial complications mark the new site of the disorder. It is unnecessary to explain that so far as the well-being of the child is concerned, it is infinitely preferable that the irritation remain where nature has placed it. I am perfectly aware that some physicians will take exception to this doctrine, and there was a time when I entertained different views, but a number of instances in which the reproduction of the percussed eruption alone saved the jeopardized lives, has caused me to look beyond the mere surface of the matter.

Management of Eczema-Capitis.—It is at once the greatest comfort and misery of the little ones to scratch, or, if restrained in this, to rub against every available object. Upon the little hands, mittens should be securely

fastened, and a cool cap should protect the scalp. I am opposed to the oiled-silk and rubber caps almost universally commended. They tend to shut in the exhalations, keep the surface sweltering in its own effluvia, and, as far as observation teaches me, these non-porous articles do not contribute to the welfare or healing of the parts affected. Cleanliness is of the utmost importance, and yet it must be accomplished judiciously. Too frequent ablutions add to the irritation, and the use of common soap is always injurious. The surface should not be washed oftener than once in twelve hours, and I am favorably disposed toward once in twenty-four hours. The water should be as hot as is bearable, and should contain half a drachm of boric acid to a pint. When soap is used, it should be only the oldest Castile. The drying must be thorough yet gentle, and performed with soft pieces of old linen, which, after each using, should be soaked and washed in a solution formed of one part of corrosive mercury to five thousand of water. After the skin is thoroughly dry, apply an ointment composed of vaseline one

ounce, citrine ointment twenty grains, lac sulphur one drachm, tar ten drops. Let this ointment be applied sparingly and evenly, rubbing in with the ball of the finger.

I have never known this treatment to fail of accomplishing everything desired in the way of a safe cure. The remedies recommended for internal medication are sepia 6^x, sulphur, arsenic 4^x, psorinum 6^x.

I must confess I have never witnessed any good result from internal remedies unassociated with appropriate external measures.

ACCIDENTS.

Who does not know that when children reach a certain age they develop into inquisitive marauders, and, despite the most vigilant surveillance, crawl or toddle into their own calamity, not infrequently pulling down upon themselves scalding fluids, or through a misstep or too near approach to fire, are seriously injured. Many of the mishaps of childhood are the fruit of culpable negligence of parents or nurses; still there is a host of ways never suspected by the elders, but which the young investigator

surely discovers, whereby he is made the victim of a

SCALD OR BURN,

which is sometimes slight, but too often severe, and always painful, requiring prompt and appropriate treatment, for it is necessary that immediate relief be obtained to secure a favorable course and termination. Nothing is simpler than the right way of treating these accidents, and yet few things are so bunglingly or imperfectly managed. In the first place, never pull or forcibly remove the garment from a scalded or burned surface, for in this way the skin, which is the best protection, is usually torn off—a grave mishap. With a knife, scissors, or any suitable means, rip open, boots, stockings or clothing, and thus avoid lacerating the tissue. As soon as the nature of the accident is ascertained, take a quantity of white flour and stir in it sweet oil or vaseline or, if neither of these be at hand, use water temporarily until a paste is formed of such consistency as will spread evenly and readily, and with this, plaster the injured surface freely to the depth of a fourth of an inch at least,—the object being absolute exclusion of

air. If the tissue be so deeply destroyed that the cicatricial contraction consequent upon deep burns be feared, the following application should be used: Obtain a quantity of "blue-clay," dry, pulverize, and sift it. Add enough vaseline or flax-seed oil to form a smooth paste. Keep the wound smothered in this until completely healed, removing each day all that may be polluted by the discharge.

At the time of dressing, spray with a warm solution of bichloride of mercury,—four grains to each quart. Personal experience with this earthy preparation leads me to believe that the distortions and unsightly scars incident to severe burns may, through its employment, be wholly prevented.

The compound more extensively used than any other, known as "caron oil," is made by mixing lime-water and olive-oil in such proportion as to form a creamy-looking emulsion. This is a more elegant form of dressing, but as it imperfectly excludes the atmosphere, it is not so effectual as the measures just described.

FOREIGN BODY IN THROAT.

If there is a stray needle, pin, hook, or button lying loose upon the carpet, Baby's eye is the first to spy it, and it is quickly transferred to the little mouth. Notwithstanding the most rigid vigilance, the little one is heard at some unexpected moment to utter a choking, gagging sound, and a glance discovers protruded eyes, livid countenance, and difficulty or perhaps cessation, of breathing. The ignorant nurse or mother, panic-stricken, catches up the strangling child and roughly shakes it, with the senseless command, "spit it up," a feat the little fellow is most eager to accomplish if he only could.

Others, still more foolhardy, rashly thrust the forefinger into the throat to feel for the foreign substance, which procedure is all very well, providing it be a sizeable article too large to enter the glottis, but the most gentle skill is necessary when there is a possibility of pushing a smooth hard body into the breathing aperture.

Then, again, nine times in ten, a stupid person will hold the child on its back while it is strug-

gling with the foreign body in the throat. The first practical thing to do is to seize the body round the loins, let the head be suspended, face downward, deliver two or three smart slaps between the shoulders, and then feel very delicately with the finger around the fauces, the head still suspended. Tweezers or forceps should never be employed blindly by a novice. If the foreign body can be plainly seen, and the forceps, guided by sight, can seize it, of course it may be done, but it should be remembered that there have been instances where the epiglottis has been laid hold of by the forceps and severely mutilated.

If the obstruction be a needle, pin, or fish-bone, the forceps will probably be the only resource, and if it is known that the obstruction be any one of these, the habit of swallowing a bolus of bread only adds to the difficulty. A surgeon should be summoned with all despatch in such cases, always sending a written message, unless the messenger be competent to explain that which is required, otherwise the surgeon may appear on the scene helpless through being unequipped for the emergency.

COLIC.

If there be a common heritage of children it is colic. Few children escape this troublesome complaint, and many are hardly free from it during the early months. By colic we mean a griping or twisting pain in the intestine, of an intermittent, non-inflammatory character.

The following are its characteristics as distinguished from other affections :

The attack is usually sudden, the cry lusty and violent: the head is thrown about, the face is usually pallid, and sometimes bathed in perspiration, the knees drawn up, and the feet and hands cold. The abdomen will be found more or less distended with gas, which fact we prove by tapping lightly over the surface, the sound produced being resonant or drum-like. At this point of investigation we distinguish the case from peritonitis, or an inflammatory condition. If inflammation be present, moderate pressure will cause the child to shrink, cry loudly, and evince other signs of pain ; but in simple colic steady moderate pressure is grateful, and for this reason, the child prefers

to lie on its belly resting upon some firm object. The suffering is manifestly due to an over-distended state of the intestine with gas, which condition puts the textures and nerve-filaments on the stretch, the spasms of pain being induced by the contracting of the muscular coats of the intestine, in its efforts to dislodge the flatus. Many mothers are curious to know how so much gas can accumulate in the intestinal tract despite their care in preventing the child from sucking from an empty bottle. Flatus is the product of fermentation consequent upon the presence of undigested food.

That many babies are born "colicky," as nurses declare, is doubtless true to a degree, but the majority of cases are amenable to proper hygienic measures, since they are unquestionably the result of improper diet.

The trouble may arise from overfeeding, a very fruitful source; the cry or fretting due to indigestion being looked upon as evidence of hunger the bottle is plied when it should be withheld, and thus through ignorance the difficulty is perpetuated and intensified, the child

growing constantly worse and "wasting away" while being surfeited with food.

The popular notion that colic is generally limited to the first four months of child life is quite significant, and its origin is apparent to those who have read in a previous chapter the facts relating to the development of the digestive apparatus. In the section devoted to the feeding of children, it is shown that farinaceous or starchy food ingested previous to the flowing of the saliva, will pass through the alimentary canal undigested; therefore pounded crackers, bread-crumbs, farina or starch of any kind fed to a child under four months of age will ferment, and so give rise to colic from the acrid product and gas developed. A large proportion of children suffering from colic are hand-fed, and as starch-yielding materials very frequently form a part of their diet, perhaps from the earliest days, we can readily understand why at this age they are victims of colic, and why at the age of four or five months it is alleviated.

The treatment of colic evidently consists principally in obeying the laws of assimilation

as set forth in the chapter just referred to. Shampooing the abdomen thoroughly with the hand to dislodge the confined gas is an excellent practice. The little one should not be held supinely but prone: laid over the shoulders or across the knees of the nurse. Warm applications, or better still, warmth over the entire body, allays the spasm.

In a severe attack the milk of assafetida in twenty-drop doses, or *Nux. vom.* 2^x dilution in one-drop doses every hour, will often assuage the suffering.

It is in the management of colic that the various products of that most baleful of all drugs, opium, are most commonly resorted to. So much has been said regarding this matter, that I hesitate to supplement the argument of others who have reasoned most eloquently, and that to all appearance without avail. The methods of introducing the drug are so numerous, its workings so insidious and alluring, that so long as pain is so much more impressive than words, the most urgent appeal will be futile.

To attempt to convince an illogical mother

or nurse that she is rendering the future more painful and wretched for the child whom she plies with "soothing syrups" is useless. She cannot comprehend that any remedy, no matter by what name it is called, that stupefies the senses by narcotizing the brain, is hardly less detrimental than the blow on the head that causes temporary insensibility. The gullibility of the public is a boon to the manufacturer of patent medicine, who permits neither truth or conscience to interfere with his trade. Despite all attestations to the contrary, opium or some of its products constitute the quieting properties of ninety-nine in a hundred proprietary compounds that have for their object the alleviation of pain, sleeplessness, cough, or irritation of any sort. We have yet to find one of these noted nostrums that has not yielded opium in some form when subjected to chemical analysis, and that, too, when the preparation is sworn to be "free from narcotics of every description."

If parents persist in the use of quieting drugs let them deal with officinal preparations, which have a uniform strength and standard dose; they should remember, however, that a

penalty is attached to all ill-gotten comfort. Narcotics invariably destroy the digestive powers, and suspend the workings of the excretories: in this way the system is impoverished, and charged with effete matter. Moreover, the secondary effect is wakefulness, despondency, and irritability. Finally, its habitual use gradually but surely entails an anæmic and neuralgic state of the system.

OPIUM AND SERVANTS.

It is incumbent upon those mothers who relegate their nursery affairs to hirelings to recognize the existence of a growing evil by no means rare among nurses in large cities. While many of these are foster-mothers in the full sense of the term to the little ones, there are others who are unscrupulous and utterly untrustworthy,—mere time-servers, who, to secure their selfish ends and comfort, do not hesitate to trifle with the lives intrusted to their care. I do not refer to their stolen visits to unhealthy abodes to spend an hour with a boon companion, nor to the chastisements the little ones have to endure, while too helpless

to voice a complaint, with other underhanded customs often practised, but to the still more pernicious habit of administering "sleeping potions." There is no difficulty in obtaining any one of the various "soothing" nostrums exposed on the shelves of every pharmacy, but these being comparatively impotent and in the end more expensive, the stronger preparations of opium are sought by the more practised.

The confessions of those who have been detected go to show that many of these women are never without a vial of laudanum, which they have become adepts in the using. The majority when apprehended volubly defend their course, and it is only just to say, that in some instances which have come under the writer's notice, the culpable parties were in a great measure unaware of the nature or enormity of their crime.

The practice, however, is invariably so zealously guarded that detection is almost impossible without the utmost vigilance.

To aid in this matter I will here give some of the physical characteristics produced by an opiate in a child.

Spells of untimely drowsiness, which is not natural sleepiness. A normally sleepy child is usually fractious, but drowsiness from narcotism is seldom petulant.

The eyes are dull, *the pupils contracted*, the eyelids droop, and there are usually dark lines underneath.

Often the tip of the nose and forehead are unnaturally cold, and a peculiar pallor comes over the face.

Without evident cause the child ceases to thrive, grows puny, soft, and blanched. As a rule the bowels are constipated, but in time obstinate diarrhœa supervenes.

Whenever the above symptoms exist, and especially if the nurse be in the habit of locking herself in alone with her charge on the appearance of fretfulness, let the mother not hesitate to become the spy.

ALCOHOL IN THERAPEUTICS.

The custom of dosing young children with alcoholic liquors is a matter for most serious protest. It is amazing that in this day of advanced thought in medicine, so many physi-

cians can be found to commend a practice so manifestly vicious in all its bearings, and so absolutely devoid of temporary or permanent benefit.

In the light of philosophy, experience, and ordinary common-sense, there cannot be discovered a single justifiable reason for dosing infants with any form of alcohol. The evil is upheld by the untenable caprice of certain members of the profession, and the misconception of the public concerning the effect of alcohol upon the system. Its appreciable or early workings are greatly overestimated and misapprehended. Instead of invigorating or fortifying the system permanently, the effect may properly be likened to that of the lash which goads on the physical powers to greater tension or effort, but the stimulus is soon exhausted, and yields to the secondary effect, when the organization oscillates to the other extreme, and instead of the exaltation there appears a greater degree of depression. Of course it is argued that so-called "tonic" potions shun the extremes,—that the end, sought and obtained 'is that of gentle stimu-

lation of the functions. This is the plausible argument usually employed, but it is sustained by nothing in chemistry, pathology, or observation.

For many years I have given assiduous attention to this matter, and the information gleaned from all available sources constrains me to oppose the use of alcohol in the therapeutics of children in every form and quantity. Not only have I failed to recognize any "tonic" effects wrought by this agent, but I have yet to find an instance in which it acted successfully in bridging over the chasm of threatened dissolution. On the other hand, there is proof positive to convince every impartial observer that the use of whiskey, gin, brandy, or any of the kindred agents, even in very moderate quantities, will to a certain extent pervert the secretions, unhinge the nervous system, and irritate the mucosa. There can be no censure too severe for the foolhardiness which commends any one of the alcoholic agents as a remedy in disease complicated with inflammation of the intestinal tracts or in cerebral irritation. An attempt to quench flames with a dash

of alcohol would display a corresponding degree of intelligence.

Finally, alcoholic stupes when applied to a broad surface like the abdomen may produce through imbibition all the effect induced by swallowing the liquor. It is not uncommon to find young children in profound stupor from an oversight in this direction.

CHAPTER X.

SELECTION, PREPARATION AND USE OF DRUG REMEDIES.

FOR the preceding chapter we claim nothing more than a running survey of the salient features of those common ailments that most frequently engage the mother's attention. We have more than once confessed our inability to cope with infantile therapeutics in a comprehensive manner in a work of this nature, and we have heretofore, as now, entreated parents to study the superior worth of common-sense hygiene and to eschew the habit of relying upon drugs. So profoundly intricate are the laws, and so ever varying the conditions of therapeutics, that of necessity the matter must remain hidden to all who have not long toiled for the knowledge which cannot easily be exemplified, neither transmitted nor received through the medium of words.

We allude now to therapeutics as a science

in the true significance of the word, but there are fortuitous conditions in which the timely use of drugs according to the grand law which dominates their action, may prove as efficient when supplied by the tyro as by the more learned.

It cannot be inferred by those who have read the foregoing chapters that I approve of taking risks in sickness, a custom far too prevalent among the laity. Upon every possible occasion I have insisted that whenever disease asserts itself sufficiently to demand medicinal aid, the administration of the remedies should be under the direct supervision of a skilled physician. Nothing is more objectionable than the dabbler in drugs, who squanders valuable time when danger is imminent, and who likewise meddles with every trifling malaise that appears, that would be dispelled by a good night's rest and sleep.

There are, however, extenuating circumstances. A physician is not always accessible when sickness assails, or the methods of the available medical counsel may possibly be to the mother more to be dreaded than the disease. There are a number of reasons that not

only justify a supplementary chapter of this kind but render it essential to the completion of our task, but it is earnestly entreated that its purport be rightly apprehended and its limitations respected. The following suggestions concerning the selecting and administering of drugs are offered for careful consideration.

In the first place we reiterate that therapy is the handmaid of Nature, and dosing merely one of the numerous accessories in the treatment of bodily ills. We are emphatic upon this point for the reason that everywhere there is shown a disposition to become so absorbed in the expectation of that which the drug is to accomplish, that the more essential aids found in hygiene are forgotten.

In the next place, we must ever guard against the mistake of looking upon disease as an entity or substance that somehow has crept into the system, and like an evil interloper works havoc in the citadel of life. This too material conception draws out a correspondingly vigorous opposition with substantial measures.

Rather let us interpret disease as a subtle influence that has caused functional derange-

ment of one or more organs of the body, and the symptoms attending the unbalanced state are manifestations of nature's struggles for the restoration of a healthy equilibrium. When brought to witness the strife between nature and disease the question at issue is, shall we rashly rush in and by violently-opposing measures usurp nature and set up a drug domination, or shall we not rather observe Nature's methods and unite with these in overcoming the inimical elements. The answer is so self-evident as to render the question absurd, were it not that every-day experiences show a ruling disposition on the part of those employing orthodox therapia to impose measures which arbitrarily reverse the original condition, wholly ignoring the fact that this enforced subversion includes the overthrow of Nature's restorative processes. Furthermore, if a remedy be administered which has a verified analogous effect to the workings of nature in disease, it invariably seeks out and quietly joins forces with her at the point affected, with precision and harmony of action, while, on the other hand, the drug that forces an opposite state expends its energy

upon the whole system with indefiniteness and general confusion.

There is another misleading notion popular with the masses, that the virtue of a drug is in some degree commensurate with the impression it is capable of making upon the senses. The smell, taste, color, and internal commotion excited are each significant, whereas the drug that cannot in any way be measured by the senses, and the workings of which are imperceptible save in the benefits accruing, is too often regarded with indifference. It would be well for such minds to reflect that nature's most wonderful works are achieved unperceptibly, while the rarest phenomena are unassociated with agitating or obtrusive elements.

The drop of acid acting upon bits of metal, speeding in silence the message to the other side of the ocean, is more wonderful than the roar of machinery. It has been estimated that scarcely a grain of metal is changed in evolving the force that is felt through three thousand miles of cable.

To discuss the vexed question of the limitation of the curative power of drugs, is not my

intention in this place. Two points only we keep prominently in view and follow. First, since drugs given in material doses work a baleful effect upon the system, we will administer no more than is absolutely requisite to accomplish the object desired. Second, the physical receptivity to analogous drug effects is wonderfully heightened through disease: as, for instance, a child in health may probably swallow one-twentieth of a grain of strychnia without exciting muscular twitchings; if however, the child be subject to chorea, or involuntary spasmodic affections of the muscles, a dose one-tenth or perhaps one-twentieth as large will cause an alarming exacerbation of the morbid muscular excitement. A person suffering from nausea will be made to retch violently by swallowing a few drops of syrup of ipecac, whereas were the stomach in its normal condition, a teaspoonful would hardly accomplish as much.

This principle must be borne in mind when applying a remedy to a disease between which there exists a similitude, for owing to the altered sensibility of the organ to the stimulus of the drug, the dose should be quite small if we

would avoid producing a serious aggravation. For instance, if in scarlet fever belladonna be administered in doses sufficient to induce its toxic effect (several drops of the tincture), the result will probably be disastrous because of the excessive force superadded to the already overstrained vital powers. It is over this cardinal principle that the majority of those imbued with old-school sentiments essaying to prescribe medicines according to the law of similars stumble, and instead of discovering that the fault rests with the illogical methods of the prescriber, the *system* is forever condemned.

Did space permit data could easily be adduced to prove that extremely minute doses of medicinal agents assuredly do affect the vital forces within the healthy human body. For example, the eruption and characteristic effects of cow-pox have been produced by vaccine lymph so diluted that one drop of the inoculant contained only a one hundred-millionth part of a drop of pure lymph. A trillionth part of a drop of septicæmic blood injected into the veins of a rabbit has caused blood-poisoning and death. The one hundred-thousandth part

of a grain of atropine placed in the eye will cause the pupil to dilate. Exceptional illustrations might be cited more wonderful still, but we have not time to dwell upon them.

We have now come to the consideration of the following list of remedies with their characteristics. To remove all chance of perplexity, we repeat, that whenever there is found a close resemblance or parallelism between a set of symptoms revealed in the patient and the group of characteristics pertaining to any one of the following drugs, it is chosen as the appropriate remedy. It is to be regretted that there exist no abiding, uniform conditions from which can be deduced rules whereby the size of doses can be arbitrarily fixed. This is a question so broad and varied in its applicability that only an educated intelligence and timely discrimination can determine that which will meet the exigencies of each case. Therefore, while to every remedy is affixed the numerals designating the attenuation customarily employed in my own practice, I do not design that the indicated limits shall be accepted as absolute. The nature and urgency of the case, and effect desired, can alone

indicate the frequency of the dose. Approximately speaking, it is seldom necessary to repeat oftener than once an hour in acute, and twice a day in chronic cases. Should a decided and unmistakable aggravation of the symptoms be produced, discontinue the remedy for at least a day, and if necessary to resume give in greatly diluted form. When remedies are kept on hand they should be protected from the light, as the virtue of many drugs is destroyed by the chemical action of sunlight. There should always be kept in reserve an ounce of syrup of ipecac, and a half-pound of pulverized flaxseed, which should be renewed at least once in three months. This precaution costs but little and may save many an unpleasant midnight trip to the druggist.

The mother who neglects to keep all medicines secure from the reach of the little investigator is assuredly not a safe person to dispense them. A pliable, well-padded leather case, is preferable to the ordinary wooden boxes supplied by the trade. The vials should be extra stout, and need not contain more than three drachms. A large number of remedies are superfluous and confusing. A thorough un-

derstanding of a few of the most common remedies is far better than an incomplete knowledge of a greater number. Subjoined is a list of such medicines as will best serve the household needs. Opposite the name of each remedy is placed its abbreviation, and then the numerals indicating the attenuation commended for nursery use. Ten times the quantity appropriate for a child is required for an adult.

Since the subject of attenuation is apt to be confusing, a word of explanation on this point will not be amiss. Formerly the centesimal scale, *i.e.*, dilution at the ratio of one hundred, was in vogue, and is still, unless specific instructions accompany an order for medicines. At the present time it is customary, because preferable, to deal with medicines prepared according to the *decimal scale*, *i.e.*, with each successive dilution or attenuation the relative proportion of the drug to the diluent contained is reduced tenfold, or is ten times weaker than the preceding attenuation. In other words the first decimal indicated thus, 1^x , contains one part of the drug to ten parts of the mixture, the 2^x , one part in a hundred of the mixture, and so on;

each successive preparation is increased in bulk ten-fold by the addition of sugar of milk, or alcohol. For instance, the third decimal trituration, written 3^x trit. of arsenic, represents one grain of arsenic thoroughly triturated with 999 grains of milk sugar; so that one grain from a vial filled with the 3^x trit. grs. will contain only one thousandth of a grain of the drug. The fifth decimal, 5^x , would contain only the one ten-thousandth part of a grain, the 6^x one millionth, and so on. This is no place to enter into the question of high or low attenuations or dilutions. Personally, I prefer the lower or stronger attenuations, and seldom prescribe less than the 4^x —usually the second, and third preparations. For good reasons I have discarded the use of pills or globules. It is always best to prepare tinctures with alcohol, and the dry drugs in powder, from using sugar of milk with thorough trituration. A grain of the powder mixture and a drop of the liquid are equivalent. The remedies indicated in the list, having “trit.” affixed, should come in powder; those bearing no mark are understood to be prepared in liquid.

As a rule, one drop, or one grain, of each remedy here commended is taken as a dose. For convenience, we usually mix the number of allotted doses in the same number of teaspoonfuls of pure water, which saves the trouble of preparing from the vial each time of administering. Furthermore, since it is understood that we have in mind a child about a year old, judgment will prompt us when to give only part of a drop to the very young or feeble, or, on the other hand, when to increase if the child be two or three years of age.

We advise those who lack dexterity in dropping liquid from a vial, to secure a piece of solid glass rod, one-fourth of an inch in diameter and three inches long; heat this over the flame of a spirit-lamp, at a point three-fourths of an inch from the end, and when malleable, bend to a right angle. Whenever you wish to drop from a vial, slip the longer part of the rod into it, and the liquid will drop from the free pendent end very neatly. The dropper should be cleansed thoroughly after each using. The ordinary pipette is unfit when delicate medicines are dealt with.

Medicines should never be put in vials that have been previously used, and old corks saturated with drugs should always be destroyed.

Name of Remedies.	Abbreviation.	Attenuation.
Aconite Napellus.....	Acon.	2 x
Antimonium Tartaricum.....	Ant. Tart.	2 x
Apis Mellifica.....	Apis.	4 x trit.
Arsenicum Album.....	Ars.	3 x trit.
Belladonna.....	Bell.	3 x
Bryonia Album.....	Bry.	2 x
Cantharis Vesicatoria.....	Canth.	3 x
Cina Anthelmintica.....	Cin.	Tincture
Graphites.....	Graph.	6 x trit.
Ignatia Amara.....	Ign.	2 x
Ipecacuanha.....	Ipec.	2 x
Kali Bichromicum.....	Kali Bichrom.	2 x trit.
Mercurius Protoiodide.....	Merc. Prot.	2 x trit.
Mercurius Corrosivus.....	Merc. Cor.	3 x
Mercurius Solubilis.....	Merc. Sol.	3 x trit.
Tr. Nucis Vomicae.....	Nux Vom.	2 x
Opium.....	Opi.	3 x
Phosphorus.....	Phos.	3 x
Podophyllum.....	Podoph.	2 x
Pulsatilla Nigricans.....	Puls.	2 x
Rhus Toxicodendron.....	Rhus.	3 x
Rheum (Rhubarb).....	Rheum.	1 x trit.
Silicea.....	Sil.	6 x trit.
Spongia Marina Tosta.....	Spong.	3 x
Sulphur.....	Sulph.	2 x trit.
Veratrum Album.....	Verat. Alb.	3 x

The above remedies are intended for internal administration. Beside these the following

tinctures should be kept in four-ounce bottles for external use :

Arnica, for bruises.

Calendula, for cuts, etc.

Cantharis, for burns, erysipelas, etc.

These are usually diluted with water in the proportion of a teaspoonful of the tincture to a gill of water, and used as a wash. Tincture of Camphor is also a valuable remedy, and often proves most efficient in cutting short a "cold in the head" by simply smelling the fumes. It must, however, be kept remote from all other remedies.

ACONITE, 2^x DIL.

Fifteen drops in gill of water ; one teaspoonful every hour until desired effect.

Pulse quick and bounding, skin dry and hot ; desire to be uncovered. Turns pale and giddy when suddenly rising from reclining position. Lips, mouth, and throat dry and parched ; respiration rapid ; short breathing with croupy cough ; starts at slightest noise ; great restlessness and symptoms of fear ; excitement and fright without cause.

ANTIMONY TART. (TARTAR EMETIC), 2^x DIL.
TRIT.

Ten drops in gill of water ; one teaspoonful every four hours.

Cough with rattling of loose mucus in throat and lungs ; coughing until vomiting ; inability to raise the loose mucus in air-tubes ; face pale ; forehead cold and clammy ; great loss of strength.

ARSENICUM ALBUM (ARSENIC), 3^x TRIT.

Four grains in gill of water ; teaspoonful three times a day.

Marked and rapid prostration of strength ; extreme thirst ; cold water soon ejected ; restlessness ; burning pains ; short stuffy cough as if dust in throat ; dread of lying on the back for fear of suffocation ; all excretions are acrid and corrode the parts. Diarrhœa (chronic), cadaverous smells, similar to decaying meat.

All symptoms worse after midnight and remit every other day ; violent burning in stomach, with vomiting and great thirst. Pale face, with puffiness under eyes ; habitually cold extremi-

ties. Arsenic is a sovereign remedy in post-scarlatinal dropsy, and often excels preparations of iron in the treatment of thin, bloodless-looking children, especially if there be suggestions of dry, scaly skin affections.

BELLADONNA, 3^x DIL.

Fifteen drops in gill of water ; one teaspoonful every four hours.

The picture is one of congestion. Violent throbbing arteries ; deep red flushed face ; injected eyes ; loquacious delirium ; sees frightful visions ; strikes and tries to bite ; feels chilly on uncovering ; pains come and go suddenly ; shining redness of skin ; mucous membrane of throat and mouth deep red ; distressing dry cough excited by creeping sensation in throat and chest ; pressive throbbing headache, as if head would burst ; rolling of head ; boring the head into the pillow.

BRYONIA ALBA, 2^x DIL.

Ten drops in gill of water ; one teaspoonful every two hours. Sharp stitching pains when

moving ; cannot take deep breath on account of catching pain.

(Pleurisy, Pneumonia, and Rheumatism.)

Patient desires to keep perfectly quiet, as motion excites the tearing, stitching pain ; painful stiffness in neck which extends between the shoulders ; breathing quick, anxious, difficult ; cough causes to cry out with sharp pain.

CINA TINCTURE.

Give child from two to six drops, night and morning, for several days.

Crossness ; irritability ; cries out during sleep ; prominent round abdomen ; spells of griping pain in abdomen ; canine hunger alternating with loathing of food ; hacking, gagging cough ; urine turns milky after standing.

GRAPHITES, 6^x TRIT.

Eruptions from which oozes a thick, sticky secretion of the consistency of honey ; skin unhealthy-looking, inclined to crack and ulcerate ; every injury suppurates and throws out the characteristic viscid fluid ; constipation ; stools dry, hard, and knotty ; abdomen bloated and

hard; much croaking. Eczema capitis with the peculiar excretion. Humid eruption around ears. Especially indicated in young girls of too much unhealthy adipose matter.

IPECACUANHA, 2^x.

Drop doses. Nausea with all ailments; pinching, griping pain about umbilicus; suffocating cough as if lungs full of phlegm, which rattles loosely; face pale, with blue margins under eyes and around mouth; diarrhœa in children; stools fermented and bright green.

KALI BICHROMICUM, 2^x TRIT.

Ten grains in gill of water; one teaspoonful every two hours.

Diphtheritic affections. White patches on tonsils; bladder-like appearance of uvula; all secretions from mucous membranes stringy and tough.

MERCURIUS SOLUBILIS, 3^x TRIT.

Grain on tongue, dry, every four hours.

Glands swollen and tender; profuse night-sweats; salivation with bad breath; ulcerated,

swollen gums ; sore throat with much secretion of mucus ; takes cold easily ; all symptoms worse at night ; syphilitic taint.

MERCURIUS PROTOIODIDE, 2^x TRIT.

Grain doses every four hours, dry, on tongue.

This is a sovereign remedy in ordinary tonsillitis, which attacks scrofulous subjects with every cold ; glands of throat swollen ; voice thick ; breathing noisy ; mouth open ; frequent empty swallowing ; sensation of lump in throat ; aching soreness of bones of nose and face.

MERCURIUS CORROSIVUS SUBLIMATUS, 3^x DIL.

Five grains in gill of water ; one teaspoonful every four hours.

This is our sheet-anchor in dysentery. Face pale, haggard, looks swollen and distorted ; gums puffy and tender ; sensation in mouth as if scalded ; painful burning in mouth, with unquenchable thirst ; stomach distended and sore ; burning, gnawing, darting pains, with vomiting of stringy substance which is green or brown ; abdomen bloated and tender to the touch ; stools yellow-green, followed by slime, often

streaked with blood ; evacuations accompanied with burning, cutting, colicky pain, with intolerable tenesmus, or involuntary straining, with blood ; extremities cold and look purple ; sometimes cramps in calves of legs.

NUX VOMICA, 2^x DIL.

Dose, one to three drops.

Dark complexioned, with irritable, spiteful disposition. Constipated habit ; indigestion ; pain in stomach as of a stone ; sick headache in the morning from indiscretions in diet, rich food, coffee, wine, etc.

OPIUM, 3^x DIL.

Drop doses.

Stupid indifference ; lies with eyes half closed and turned upward ; face dark red, or pallid ; cold, clammy forehead ; breathing very light ; imperceptible when dozing ; stertorous and blowing when sleeping on back.

PHOSPHORUS, 3^x.

Tuberculous affections. Want of vital strength and reaction. Pneumonia and other

pulmonary affections. Cough dry and hoarse, with pain under breast-bone ; hectic fever, with night-sweats ; red spot on one or both cheeks ; habitual constipation ; stools adherent, stringy, and voided with great difficulty, as if the bowel were passive.

Individual characteristics—tall, lean, round-shouldered.

PULSATILLA, 2^x.

Drop doses.

Mild, yielding disposition ; tearful ; cries easily without sufficient cause ; fair, sandy complexion ; pains wandering ; shift rapidly from one point to another ; stomach disorders and diarrhœa from cakes or rich food, particularly from fat pork and pastry containing lard.

SULPHUR, 2^x TRIT.

Cold extremities, with burning palms and soles ; child dreads to be washed ; unhealthy skin ; slight injuries suppurate ; herpes ; child scratches when undressing and becoming warm in bed ; prolapsus of the rectum ; strongly indicated in early morning diarrhœa. An excel-

lent remedy in convalescence when recovery is slow.

Finally, in the treatment of infant diarrhœa there are four favorite remedies that deserve special mention, and in my own experience I have usually found some one of them satisfactory. In simple, recent diarrhœa, where there are febrile symptoms, restlessness, frequent stools yellow, frothy and papacent, nothing is better than castor-oil, given in doses of from ten to twenty drops, once a day or every other day.

In painless diarrhœa, where the stools are profuse, watery, and with meal-like sediment, the evacuations preceded by gurgling in the bowels, then pouring forth in large quantity as if to drain the patient, podophyllum in minute doses is indicated. If, however, the stools are black, tar-like, and very fetid, leptandrin one-hundredth of a grain, or 2^x trit. thoroughly triturated in sugar, given twice daily, will have a happy effect.

When the diarrhœa has assumed a chronic form, and there are no febrile complications, small doses of rhubarb will prove very effect-

ual. To an infant, give one-fourth of a grain of the root, suitably prepared, three times a day for two days, and then omit a day or two, when it may be resumed until the desired effect is produced.

THE NURSERY SCRAP-BASKET.

Disinfectants.—Among the laity there is a widespread ignorance as to what constitutes veritable disinfection. Although from earliest times its importance has been recognized, still in this matter the public has advanced but little beyond the ideas of three thousand years ago, and it is full time that a more definite knowledge be obtained concerning the practical application of agents to prevent the spread of infectious or contagious diseases. For some unaccountable reason physicians have been remiss in their duty regarding this particular ; otherwise we would hardly find the majority of mothers of to-day relying upon the virtue of cloths saturated in solution of carbolic acid, chloride of lime, camphor, etc., hung up in the rooms for the purpose of destroying or rendering inert poisonous germs that may be floating through the atmosphere of the sick-room.

To disinfect a room—that is, to charge the atmosphere to such a degree with vaporizable or volatile disinfectants as to destroy the disease spores, the air must be so saturated with the chemical agent as to be unlivable; for experiments demonstrate that the vital principle (so to speak) of the micro-organisms is more difficult to destroy than that of nobler organisms, or, in other words, the vapors of carbolic acid, chloride of lime, or kindred agents, might be made so strong as to poison the human inmates of an apartment, and yet the disease germs disseminated around the same apartment remain viable so far as their specific blood-poisoning power is concerned.

To insure disinfection of the air and appurtenances of a room with a diffusible disinfectant, it must be vacated, all means of ventilation closed, and then disinfectant fumes generated so as to charge the room with them to a high degree. This is best accomplished by burning brimstone. After a room has been occupied with a case of scarlet fever, typhoid fever, diphtheria, etc., shut all the windows and crev-

ices, place in each corner a tin dish containing two or three ounces of sulphur, ignite, and close the door. After a few hours ventilate the room thoroughly.

Disinfectant solutions, to be efficient, must be brought in direct contact with the poisonous germs. Spittoons, slop-jars, etc., must not only be washed with the solution, but a quantity should stand in every vessel receiving the excreta. In this way the microbes are destroyed in their nest before they have become diffused through the air. The best disinfecting fluid known to science is a solution of corrosive sublimate. As this salt is a deadly poison it must be handled carefully. Make a solution as follows: In a gallon of water dissolve one ounce of corrosive sublimate (bichloride mercury) and half an ounce of permanganate potassium. This germicide is superior to all others, is cheap, and emits no unpleasant odor.

After a siege with a contagious disorder, do not burn the soiled clothing that has been about the patient, but soak for four hours in a bichloride of mercury solution, made of one part of the salt to five thousand of water; then rinse and

boil them. The above measures can be executed at very little expense, and with much less annoyance than the ordinary ineffectual habit of polluting the air with disagreeable odors.

HOUSE SEWERAGE.

We can make only a passing allusion to house sewerage. Whenever possible, set basins should be abolished from the nursery, every one of which is a death-trap, being an inlet for poisonous effluvia thereby conveyed from the foul cesspool reeking with the noxious germs of numberless contagious and infectious diseases. It may be argued that "sanitary plumbing" provides for the exclusion of foul gases, but those who have investigated the subject know that this is but imperfectly accomplished; and indeed, it is well nigh impossible while the present style of architecture prevails. Every well-appointed house should have a semi-detached extension whereby each floor could be supplied with a bath-room and closet. Escape-pipes should enter the chimney flue (the one in constant use should be selected), or into a large ventilating flue reaching high above the roof.

If, from inevitable circumstances, the presence of a set basin must be endured in a nursery or sleeping room, wash out the pipe with at least a pint of disinfecting fluid every evening, and should the faintest odor of sewerage be detected, cork tightly the overflow holes and keep standing in the basin a pint of the solution. Unless there be a leak in the pipe, by this precaution all disease spores will be destroyed, and, it may be, a dangerous or fatal illness escaped.

Finally, artificial disinfectants should never usurp the place of sunlight and fresh air, for after all is done, nature has given us in these two factors, our most efficient safeguards. Add to these cleanliness, and the actual need for disinfectants will be reduced to a minimum.

REST AS A REMEDY.

Whenever a child is nauseated, and purges, know that irritation exists somewhere along the intestinal tract, or the digestive organs are overworked, and rest is imperatively demanded; consequently, for a few hours abstain from all food, even though the little one rebel, and for a day or two reduce the usual amount. Sub-

ject the disordered apparatus to rest, just as you would enforce disuse for the benefit of an inflamed eye. Should the child cry and show symptoms of thirst, do not give cold water, as this will surely aggravate the nausea; give, rather, warm barley water, or, should the bowels be quite loose, gum-arabic water instead.

BARLEY WATER.

Grind coarsely a heaping teaspoonful of choice barley grains. Boil in a gill of water; strain; add a pinch of salt and a tablespoonful of fresh milk.

GUM-ARABIC WATER.

Must be made fresh daily, as it spoils very quickly in warm weather. Dissolve a drachm of the clear lumps (the pulverized is often adulterated) in a gill of water. Mix from one to four teaspoonfuls in the milk at each meal, or add an equal part of water when given as drink. One drachm of the gum should be sufficient for the day, unless the diarrhœa is excessive, in which case the amount may be

increased. The effect of gum-acacia is to stay the action of the intestine, and at the same time increase the secretion of the kidneys.

Mother's milk is normally alkaline, while cow's milk is often slightly acid; therefore, during the summer weather it is well to dip a strip of blue litmus paper in the alien food, and if it turns red the fluid is acid. To remedy this, add a few teaspoonfuls of lime-water, when it will be found that the strip remains blue, and the bit previously reddened will regain its former blue tint if reimmersed.

LIME-WATER.

To a quart of clean filtered water, add a piece of unslacked lime the size of a hen's egg, and then let it stand over night, when it is ready for use. Do not shake the bottle, but turn the clear fluid off as needed. When the sediment is approached, refill the bottle and use as before. No special care is necessary in preparing, as water will only take up a constant relative proportion of lime; therefore the water decanted from a bottle half full of lime-deposit will be no stronger than from one containing a teaspoon-

ful. Continue to add water and use without adding fresh lime until the deposit is pretty well exhausted.

A greenish tinge of the diarrhœic discharges indicates acidity of the intestinal juices (the normal state is slightly alkaline), hence a little lime-water, and such regulation of the ingesta as will check fermentation, will generally correct this condition.

CLINICAL THERMOMETER.

Every mother should possess one of these health-monitors and be conversant with its use. The sense of touch is far from being reliable in determining the presence or intensity of fever. Occasionally (rarely, of course), the surface may be found quite cool, and still a dangerous fever be present. The normal temperature of the body is a trifle over 98° ; abnormal oscillations are limited to 7° or 8° . When a temperature of over 100° is registered by the thermometer, we may be sure there is an abnormal state of the system. The temperature of the body rarely exceeds 106° , even in the most intense febrile condition. Bodily tem-

perature remains unaffected by that of the immediate atmosphere. While ascertaining the temperature of an infant, a good place for the clinical thermometer is between the thighs or, better still, in the anus. In about five minutes the mercury has acquired the same heat as that of the body. Always obtain a self-registering instrument, and from a thoroughly reliable dealer. When cleansing, avoid dipping it in warm water. It is economical to have a neatly cushioned case for its protection, otherwise a fall or jar will break an instrument ordinarily costing from three to five dollars.

Nothing quiets the restlessness of fever, quenches tormenting thirst, and lowers the temperature of the body more speedily and gratefully than frequent sponging of the dry, heated surface (especially the back) with tepid water. Never use it cold, as, secondarily, it adds to the heat of the skin.

A wet compress laid along the stomach and bowels allays thirst more effectually than drinking, when intestinal inflammation exists.

LACTOMETER AND CREAM-GAUGE.

These are valuable instruments and will protect the little ones from the impositions of dishonest milk-dealers. They are inexpensive, their use easily comprehended, and are almost as indispensable as the thermometer that regulates the heat of the nursery.

DECEIT IN THE NURSERY.

To betray the confidence of a child is always contemptible but never more so than when exercised by a parent. Whenever I see a little one distrusting all that is done and said, refusing to be reconciled by a mother's assurances, I am quite sure that in the past that child has been treacherously dealt with. What is more detestable than a mother or a nurse protesting that a nauseous medicine is "so nice," and pretending to taste it with great relish, till through coaxing, hiring, and threats, the dose is swallowed and the child has additional cause to question the honesty of its elders? Depend upon it the mother who practises deceit toward her child will have cause for bitter repentance.

I often stand amazed at the manifest lack of moral tone and even-handed justice on the part of mothers who will severely reprimand every semblance of falsehood in children, and yet will themselves not hesitate to practise a score of untruths to gain some trivial end. Once deliberately deceive a child and it will never fully believe in you again. Who has ever known a child forget a promise made to it, and yet how frequently are promises made that are never kept.

Children have remarkably retentive memories, and are keen-sighted and accurate observers—just and correct in their deductions. Therefore if parents expect their offspring to live uprightly, with a loyal respect for truth in its broadest sense, they must be prepared to lead the way, not by precept and argument only (for hypocrisy ever stands naked and despised before the guileless perception of childhood), but by being in all things just and true.

COMPULSORY KISSING.

Every mother knows that, very early, babies manifest decided likes and dislikes in the matter

of acquaintances, quite as pronounced as those of older people. Fair play suggests that these prejudices should certainly be respected, and defended if need be; but exactly the opposite is the case. Regardless of baby's frowns and other expressions of aversion, he must submit to be kissed and petted by every female friend of the mother's. It is high time that popular sentiment came to the rescue of the little ones, for it is an unpardonable offence that their delicate feelings should be overridden by a vulgar custom. Incredible as it may seem to the fond mother, kissing and fondling the "baby" is not regarded as an inestimable boon by the majority, loud as their protestations of delight may be. Not only is this custom an imposition upon the helpless members of society, but it is to a degree positively dangerous. For a fuller explanation of the meaning of this assertion let mothers consult the medical adviser.

CORPORAL PUNISHMENT.

It must be a cold and cruel heart that can watch unmoved the whirl of emotions, shame, anger, outraged pride, and keen resentment,

all mingled with grief, which fill the soul of the little body smarting under corporal punishment. Some of us recall with vividness occasions of castigation endured fifty or seventy years ago. Sore indeed must be the wounds in the young heart the scars of which are not obliterated by the wear and tear of a lifetime. Little do parents whose hearts have been heavy with the vexing cares of a work-a-day life, reckon of the estrangement wrought, or thoughts of revenge awakened by a whipping inflicted upon a child. I once heard a young man confess with grief that fifteen years of his young life had been embittered by impatient longing for the time to come when he could revenge upon a father a severe box upon the ear. Of course, when the time came, the thoughts of revenge were merged into grief for the wealth of happiness and filial love which had been blighted forever by an apparently trivial affair. Nothing is more fatal to mutual love, trust, and interest between parents and children than corporal punishment. Castigations and harsh reprimands invariably lower a child's self-respect and debase the moral tone. Moreover, a child who has reason

to believe himself unjustly treated is sure to indulge in feelings of resentment rather than repentance.

The knowledge that a child obeys through fear instead of love will bring anguish to the heart of any true or worthy parent. And yet how often do we hear parents who yearn for the love and best good of their children couple their injunctions with a threat. "If you do not mind what I say I shall whip you," is the vulgar threat of multitudes of mothers, and wherever heard, bespeaks narrow mindedness and ill-breeding, and, furthermore, is suggestive of untold trials and strife. It is infinitely better to draw upon a child's reason than fear, as an incentive to do or forbear. It is a wonderfully short-sighted doctrine, no matter where applied, that a wrong done can be cancelled by physical pain inflicted.

It is an imperative duty to teach children that every wrong-doing has its legitimate penalty affixed, which must be paid sooner or later. This lesson in moral training can be very early impressed. If the mischievous hands upset the work-basket, or scatter the contents of drawers,

instead of slaps and petulant reproaches, insist upon a replacement of every disturbed article ; and so on from this simple illustration of atonement to others infinitely more complex, but always keeping the grip of honor, or sense of right upon the tender conscience.

It is always very gratifying to watch with what earnestness the brave little hearts respond to demands thus wisely made upon them. There are a thousand resources at the command of the wise, discreet mother who can illustrate her precepts by well-chosen spirited stories, but most of all by her own keenly noted, noble demeanor.

THE POWER OF EXAMPLE.

We are often amused while observing the reproduction of a father's peculiar movements or mannerisms in his little son, in whose eyes there is nothing so perfect as the personal qualifications of his beloved parent.

In childhood we are not much more than imitators. The little girl personates her elder companions, especially her mother. Let the mother be never so gracious and kindly when

in the presence of strangers or friends, we suspect her to be an ill-tempered body, given to slapping and scolding if her little daughter be loud, harsh-spoken, ready to scold and slap her little playmates.

THE AWAKENING OF INTELLIGENCE.

What appeals more strongly to the sympathies than the wistful, questioning look in a baby's wide-open eyes. Many shades of expression come and go, but that of thoughtful inquiry remains always. How unmindful seems the adult-world to the fact that through these round windows an intensely active, hard-working brain gazes, and in its eagerness to acquire and comprehend, it pulls the curtains as far apart as possible. Stop a moment and reflect seriously upon the vast amount of work this infant brain has compassed during the brief period of say one year. The first three months of life we must not count, for during this period the little body simply exists—breathes, eats, and sleeps. It is hardly earlier than the fourth month that the soul awakens, and the spirit of intelligence begins to perceive and reason con-

cerning its surroundings. At first the outlines must be very indistinctly seen through the shimmering mists that are lifting. And now consider what is accomplished within the next few months: the names, uses, and nature of countless objects; the formulation of ideas, and the ability to associate sounds. Not only unaided, but in spite of many hindrances in the form of idiotic grimaces and senseless sounds, with which adults have intensified the mental confusion, the little creature has achieved more in one year, than older brains ordinarily accomplish in double that time.

It is no wonder, then, that infantile disorders are prone to take on neurotic or cerebral complications. We have here broached a subject of vital importance to parents. Instead of stimulating the over-active brains of children, they should relieve the mental tension by diverting the vital energies into the channels for physical development. It is infinitely better for a child to tumble and frolic with a good-natured dog, than to be always dressed ready to be carried into the parlor for the benefit of visitors, who will annoy and weary it with meaningless jargon.

GHOST STORIES.

It is sinful to inflict upon the highly imaginative, impressionable minds of delicate, nervous children stories of ghosts and frightful creatures. This is a matter every mother should attend to in the premises, whenever engaging the services of a nurse, especially if she be of the Teutonic race. In several instances I have seen deplorable consequences follow this wicked practice. The nervous system of one little girl was dangerously affected, and for months she suffered from nervous prostration, being in constant trepidation lest a "great monster who lived on naughty children" should come and steal her away while she slept. All this anguish (which was really pitiful and persistent) was due to the wretched devices of a German girl, who resorted to this means of exacting obedience.

There is nothing the young mind more delights in than to give the imagination full wing into the realm of romance. 'Tis then the fertile imaginations are teeming with creations, which are easily conjured up before the mental

vision. This propensity, so dominant in childhood can be employed to great advantage in coloring the impressionable brain with beautiful pictures, the tints of which will bide through life, to reappear in the dreams of second youth. A wise mother will people the hours of darkness with guardian spirits and lovely visions, and will anticipate matters as far as possible, by guarding against the approach of evil-working influences. The mischief which would give to the youthful fancies a morbid coloring being perpetrated in this particular is by no means trifling, if we may judge from that which always has been. By a little judicious inquiry I have found that the majority of adults possess vivid recollections of the positive sufferings they were made to endure through the relation of uncanny stories in the nursery. Not a few confess that years and reason have not succeeded in undoing the injury which a single recital has wrought.

KINDLINESS.

What a common and deplorable sight is that of a mother or nurse teaching a child, who has met with an accident, to beat the innocent

cause of the mishap, at the same time berating the object assailed, with various abusive epithets;—as, for instance, a chair, stick, table, or stove is “nasty,” “wicked,” “naughty,” “mean,” etc.

Anyone who encourages an angry child to wreak vengeance upon some object of his wrath, is planting in the young soul the deadly seed of ungovernable passion, and malicious revenge, which may develop to fill the future with untold mortification, suffering, and perhaps crime.

No true mother willingly darkens the soul of her offspring, nevertheless a vicious thought or rancorous emotion stamps its baleful impression upon the disposition, it may be for all time. Fortunate is that child who is early taught that pain, sorrow, and misfortune mark the transgression of some beneficent law, made for our own and the world's best good; and thrice fortunate the mother into whose life has come the ennobling and softening influences—the reflection of an earnest endeavor to make clear to the wakening life the good and beautiful in everything.

INDEX.

	PAGE
Accidents	212
Air-cells, number in lungs.....	103
Alcohol in therapeutics.....	225
Alimentary canal.....	33
Amyloids	39
Amusement, means of	112
Analysis of cow's and woman's milk.....	56
Anus, falling of.....	196
Appearance of tongue in scarlet fever	167
Artificial food, selection of	53
Artificial milk-food formula.....	69
Atmosphere, composition of.....	99
Attenuation of medicines.....	237
Awakening of intelligence.....	265
BACK, ill effects from lying on.....	26
Barley.....	77
Barley-water.....	255
Bathing, excessive.....	5
Bath-tub.....	9
Bells, string of.....	114
Bile, function of.....	41

	PAGE
Blood, aeration of	103
Blood, rapidity of circulation.....	104
Bottle, nursing.....	48
Bowel, protrusion of	196
Brain-cry.....	120
CANE sugar, cause of skin eruption	68
Canker rash.....	166
Capillaries.....	22
Carbonic-acid gas	99
Carbon, amount exhaled during the day	100
Catarrh, due to warm bathing	8
Cathartics, ill effects of.....	199
Cleanliness	1
Chloride sodium (table-salt)	60
Clothing.....	13
Crib, situation of.....	105
Croup	126, 148
Croup, treatment of.....	151
Cry of infants, significance of.....	120
Cold sponge	11
Colic.....	217
Condensed milk.....	67
Condensed milk, dilution of.....	67-68
Constipation, chronic.....	198
Convulsions, premonitions of	122
Convulsions.....	203
Corporeal punishment.....	261
Cot, construction of.....	110
Cough, whooping.....	176
Cow's diet	64
Cow's milk.....	55
Cow's craving for bones.....	64

	PAGE
Cutting of gums.....	95
Cutting of teeth, order of	83
DECEIT in nursery.....	259
Decimal scale.....	237
Dentition.....	80
Dentition, remissions in.....	85
Diarrhœa, sudden suppression of.....	88
Diarrhœa not a disease.	88
Diarrhœa, infantile	187
Diet, infant.....	31
Differentiation between "false" and "true" croup.....	128
Digestive apparatus.....	32
Diphtheria.....	155
Diphtheria, premonitions of.....	125
Diphtheria and croup.....	165
Disinfectants.....	250
Disinfectant solution.....	252
Disinfection after diphtheria.....	164
Disinfection of a room.....	251
Domestic treatment of disease.....	146
Doors, safeguards for.....	117
Dorsal position harmful.....	19
Dose, size of.....	232
Dosing, indiscriminate.....	133
Drizzling, beginning of.....	34
Dropping medicines.....	239
Drugs, action of.....	90
Drugs, right and wrong uses of.....	131
Duality of action of drugs.....	135
Dysentery	192
EARLY indications of disease.....	118
Ears, care of, in bath	12

	PAGE
Ears, care of, when diseased.....	171
Eczema capitis	208
Epidermis	3
Example, power of.....	264
Exercise, effects of, upon respiration.....	102
Exhalations of skin.....	5
Extremities, care of.....	14
Eyes, care of.....	116
FARINACEOUS food preparations	73
Feeding at night	43
Flaxseed in constipation	201
Fresh air	97
Frequency of dose	235
Food, selection of	31
Foreign substances in throat	215
Four favorite remedies for diarrhœa.....	249
GASTRIC juice	38
Gerber's milk food.....	74
Gestures and movements	121
Ghost stories	267
Goose-flesh, nature of.....	4
Gum-arabic water.....	255
Gums, incision of.....	95
Gums, painful.....	94
HABITUAL constipation	198
Hair, wetting of, causes catarrh.....	12
Hip-joint disease.....	205
Hip-joint disease, early symptoms of	122
Hospitals, ventilation of.....	101

	PAGE
Hot bath in convulsions	204
House sewerage	253
ICE, in diphtheria.....	162
Ice, sucking, in dysentery.....	196
Ice, in scarlet fever	172
Inactivity, harmful.....	20
Incontinence of urine.....	201
Infant diet	31
Infantile diarrhœa	187
Infinitesimal doses.....	233
Intestinal disturbances during dentition	85
JACOBI on cereals	75
Juice, gastric	38
“ KEYNOTE ” symptoms	119
Kidneys, affections of, in scarlet fever.....	170
Kindliness.....	268
Kissing, compulsory.....	260
LACTOMETER and cream-gauge.....	259
Laxatives and constipation.....	198
Lime-water	256
List of remedies.....	240
Lobelia in pneumonia.....	181
Lungs, inflammation of	178
MASSAGE, benefits of.....	29
Measles	173
Measles and scarlet fever	175
Membranous croup.....	126, 148
Meningitis	184
Metastasis	186
Morphine in pneumonia.....	179

	PAGE
Mother's diet	64
Mother's perception	118
Movement of body.....	20
Mumps.....	185
NARCOTICS in nursery.....	94
Nestle's milk food.....	74
Night-feeding	43
Nursery crib.....	110
Nursery appurtenances	108
Nursing-bottle, best form	51
OATMEAL	77
Opening medicines, harmful results of.....	198
Opiates in colic	220
Opium and servants.....	222
Overfeeding	42, 47
PAINTED toys.....	115
Pancreas	40
Pancreatic fluid.....	40
Paralysis following diphtheria.....	162
Parotides.....	185
Peritonitis	184
Phosphate, lime.....	62
Pleurisy	184
Pleurisy, symptoms of	124
Pneumonia	178
Pneumonia, early signs of.....	123
Post-scarlatinal dropsy.....	170
Posture, bodily.....	16
Posture and disease.....	26
Poultice, construction of	153
Poultices for the relief of intestinal irritation.....	192

	PAGE
Prolapsus ani	196
Proteids	39
Pulmonary affections, early signs of	123
QUINIA and morphia in pneumonia	179
REMEDIES, dual effects of	135
Repetition of dose	235
Respiration	100
Rest as a remedy	254
SAFEGUARDS	117
Salivary glands	35
Sand-bed in nursery	116
Scald-head	208
Scalds and burns	213
Scarf-skin	4
Scarlatina	166
Scarlet fever	166
Selection and preparation of drugs	228
Sequelæ of diphtheria	162
Servants and opium	222
Size of dose	232
Skin, anatomy of	2
Soothing medicines	92
Spasmodic croup	126, 148
Spasms	203
Sponge, objection to	10
Sponging-surface in fevers	258
Stagnation, cause of	20
Stomach and its functions	37
Stomach, shape of, in infancy	37
Sucking-bottle	48
Sugar an aid to digestion	58

	PAGE
Sunlight in nursery.....	108
Swabbing of the throat.....	161
Sweat-pores.....	3
Sweat-tubes, extent of.....	5
Swinging cots.....	111
Symptoms of opium.....	224
Synovitis.....	184
Syringe, mischievous results from use of.....	200
TABLE, comparative analysis.....	56
Table comparing different milks.....	72
Teaching infants to drink.....	52
Teething, signs of.....	82
Temperature of bath.....	9
Temperature and purity of air confounded.....	106
Thermometer in bath.....	9
Thermometer, clinical.....	257
Toilet articles.....	10
Tongue, appearance of, in scarlet fever.....	167
Toys, proper selection of.....	114
Tuberculosis, early indications of.....	129
UMBILICAL hernia.....	196
Underwear.....	14
Urine, incontinence of.....	201
VASCULAR system.....	21
Ventilation of rooms.....	105
WALL-PAPER.....	115
Warm bathing.....	7
Warm bathing and catarrh.....	8
Wetting of bed.....	201
Whooping-cough.....	176
Windows, protection of.....	117

