

Practical medical and surgical family guide in emergencies : a manual explaining the treatment of diseases, accidental injuries and cases of poisoning which demand prompt action in the absence of the physician : hints and helps on health, home nursing and remedies, care of children, how to cook for the sick, etc. : also, a complete pronouncing vocabulary of medical terms designed for families, students, teachers, and practitioners of medicine / by W.P. Kistler.

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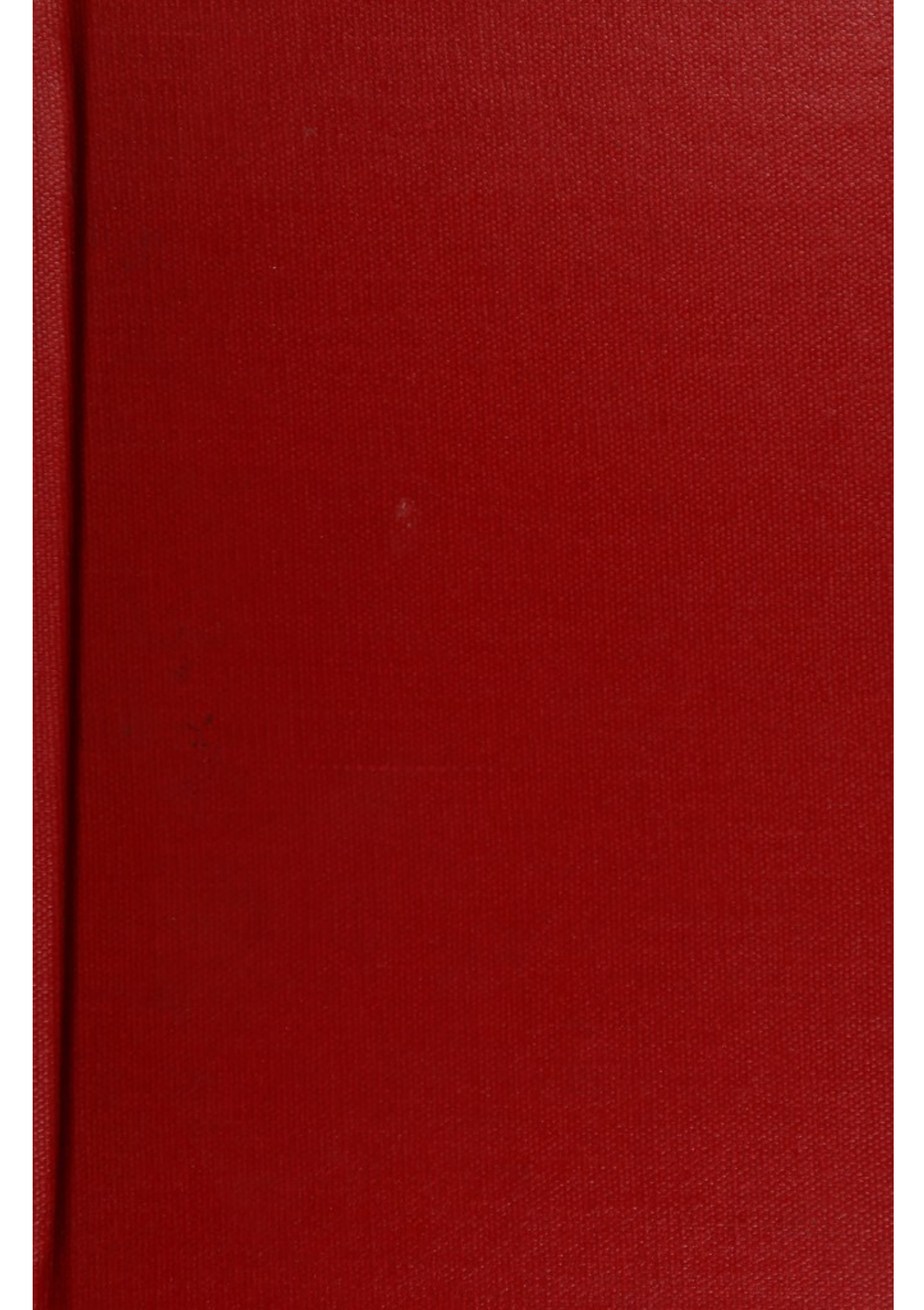
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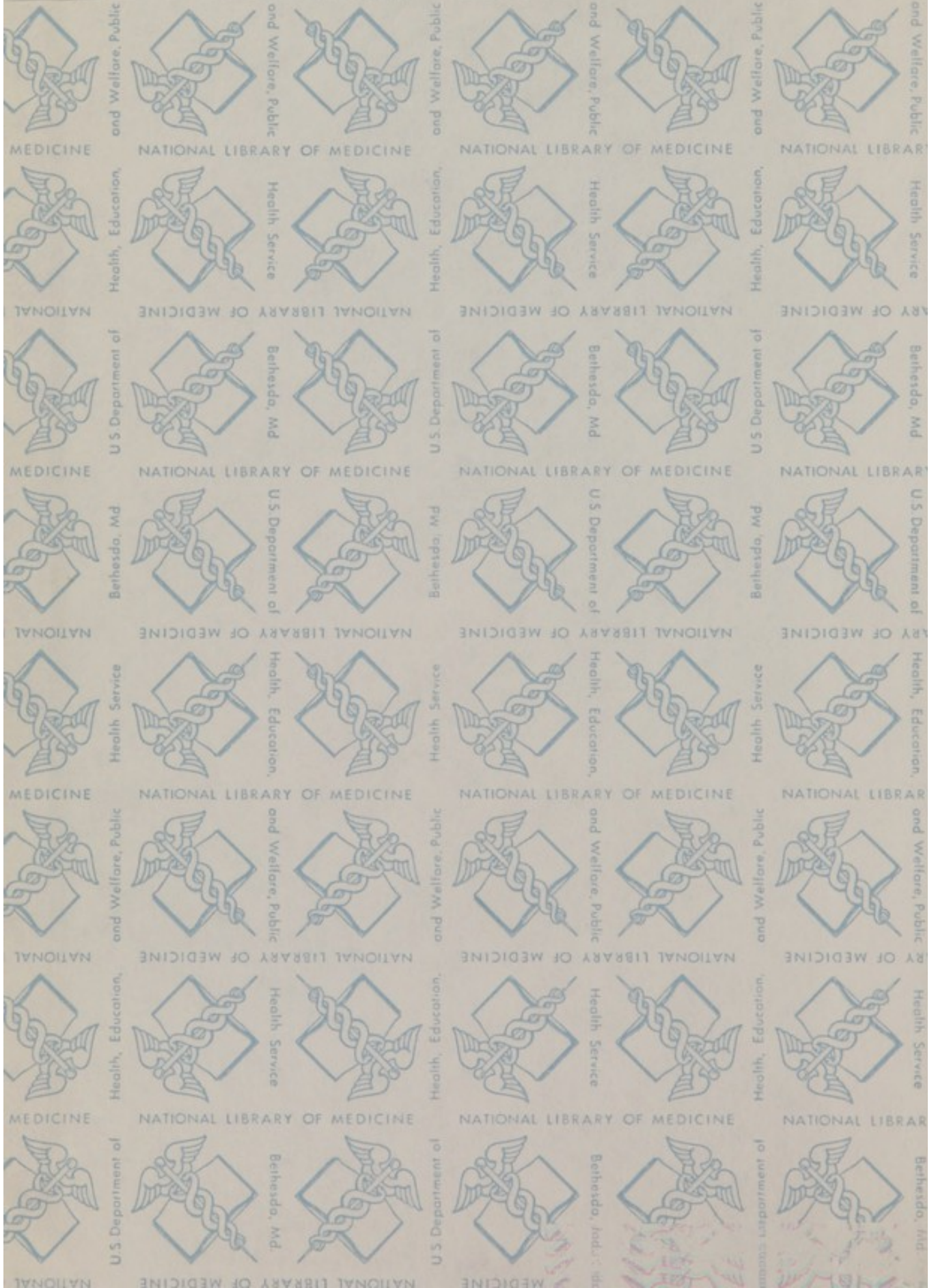
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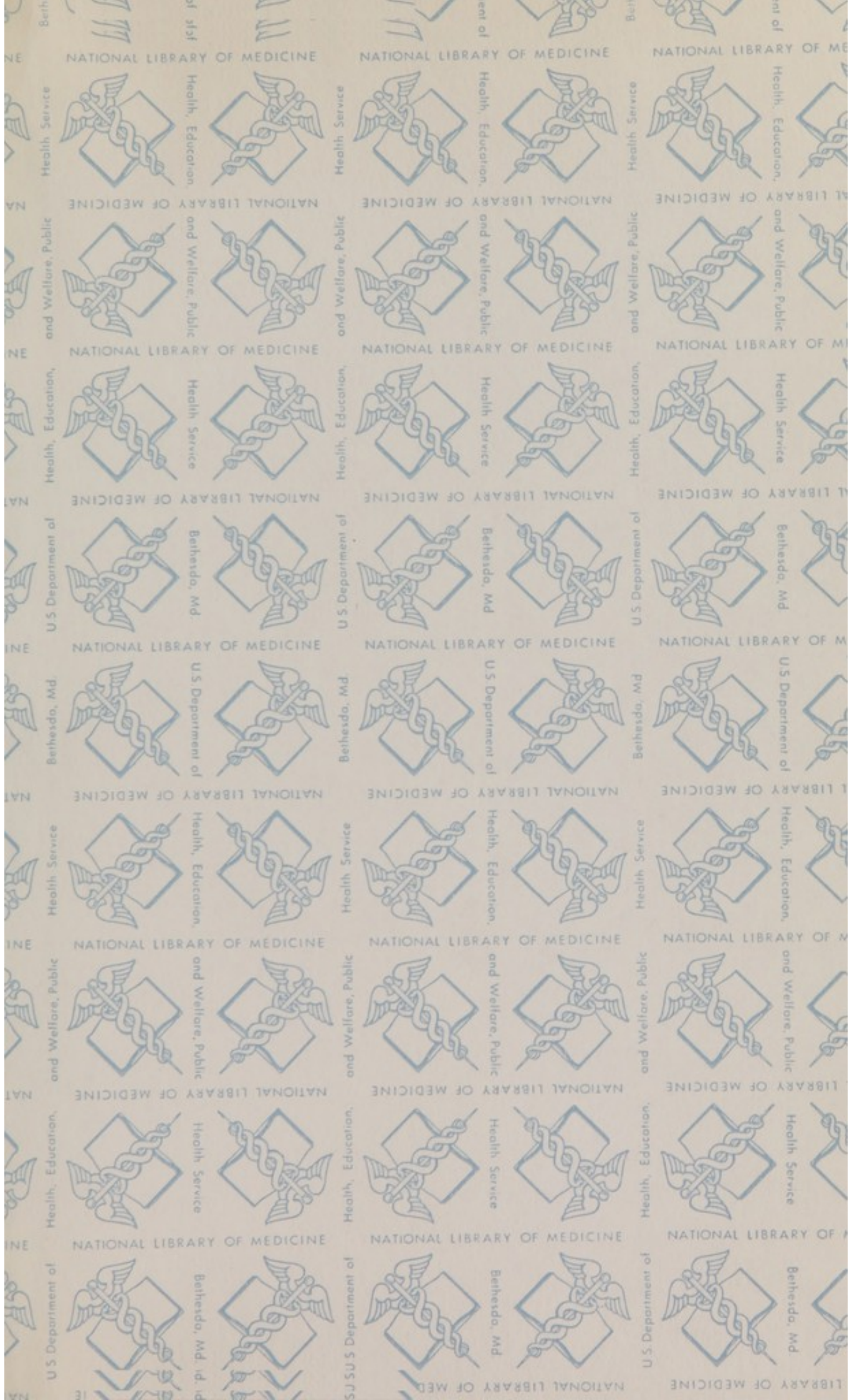
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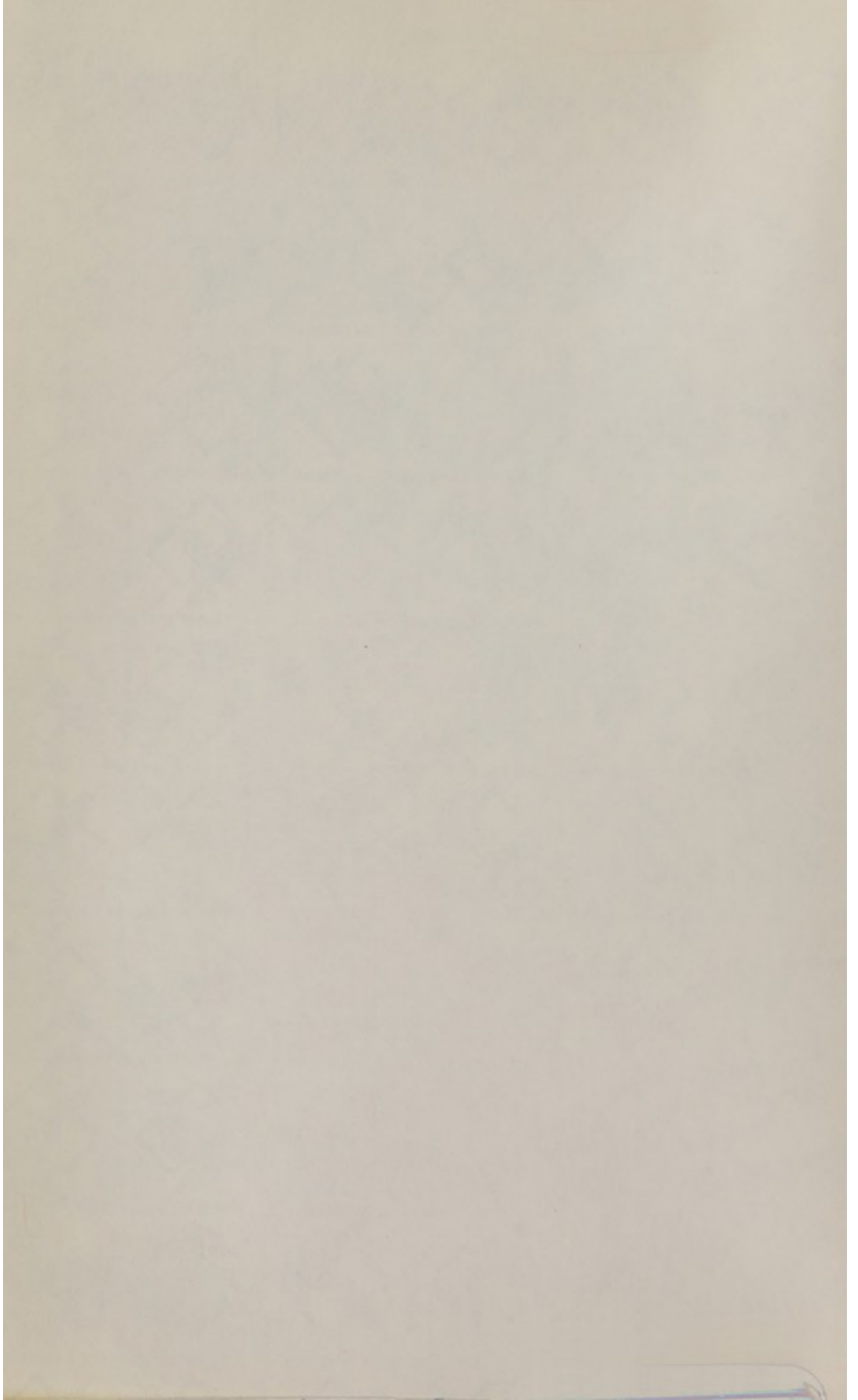


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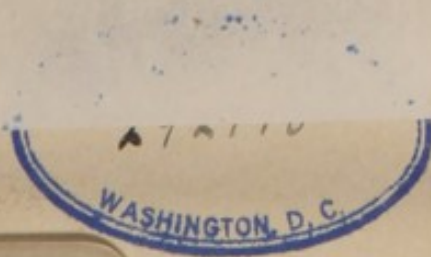


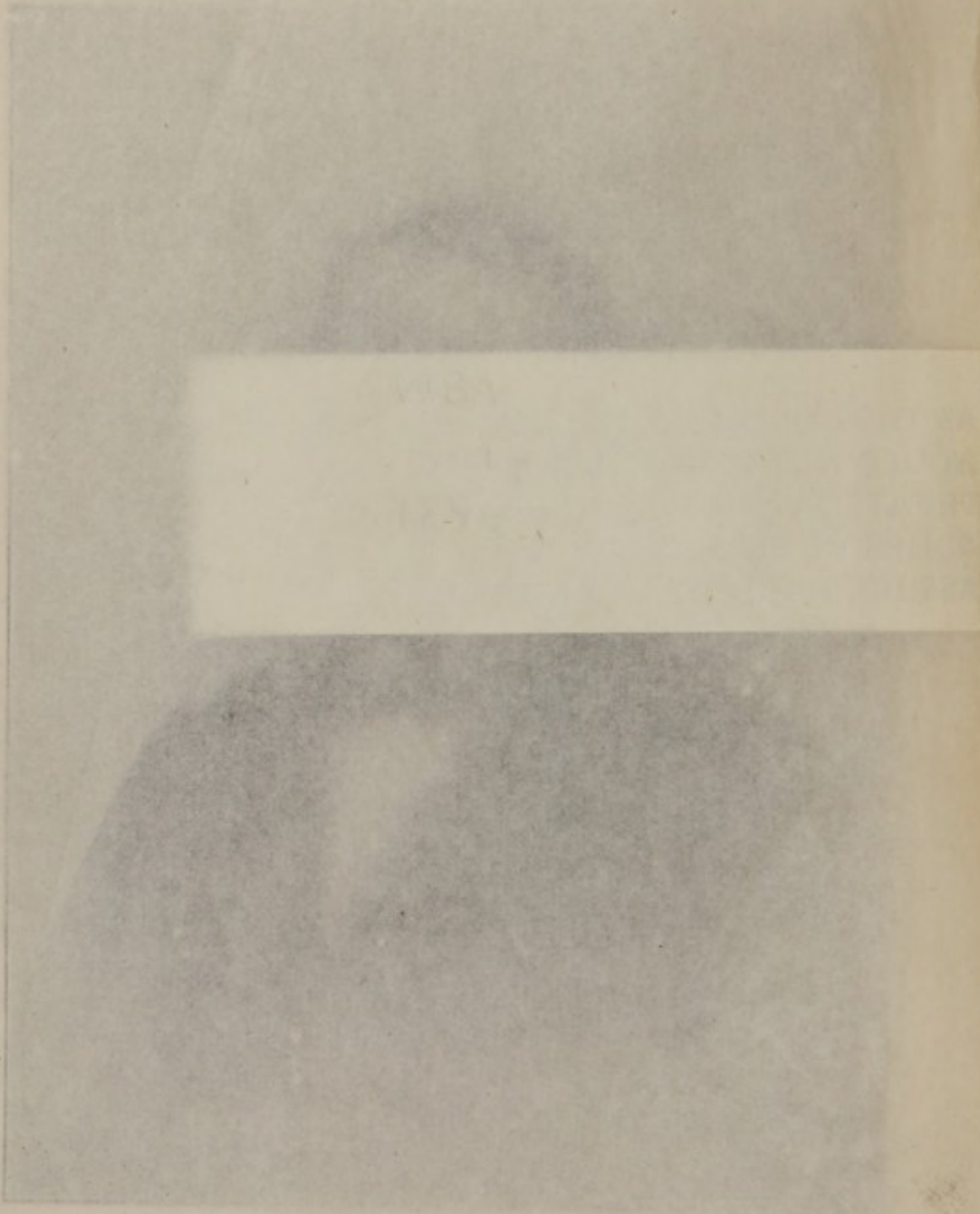


W. F. Kistler M.D.

FAMILY TREE

AS THE CONDITION OF THIS VOLUME
WOULD NOT PERMIT SEWING, IT WAS
TREATED WITH A STRONG, DURABLE
ADHESIVE ESPECIALLY APPLIED TO
ASSURE HARD WEAR AND USE.





W. F. Kistler & Co.

PRACTICAL
MEDICAL AND SURGICAL
FAMILY GUIDE
IN EMERGENCIES.

A MANUAL
EXPLAINING THE TREATMENT OF DISEASES, ACCIDENTAL INJURIES AND
CASES OF POISONING WHICH DEMAND PROMPT ACTION
IN THE ABSENCE OF THE PHYSICIAN.

HINTS AND HELPS ON HEALTH.

HOME NURSING AND REMEDIES. CARE OF CHILDREN. HOW TO COOK FOR THE SICK, ETC.

ALSO
A COMPLETE PRONOUNCING VOCABULARY OF MEDICAL TERMS.
DESIGNED FOR
FAMILIES, STUDENTS, TEACHERS, AND PRACTITIONERS OF MEDICINE.

By
W. P. KISTLER, M. D.



"He that doth not know those things which are of use for him to know is but an ignorant man, whatever he may know besides."—*Tillotson.*



Annex

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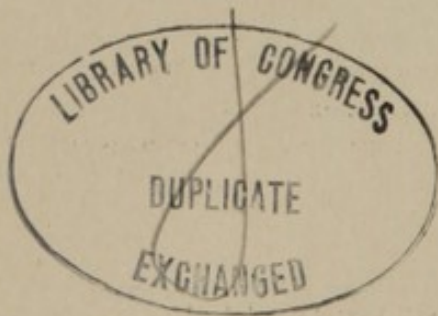
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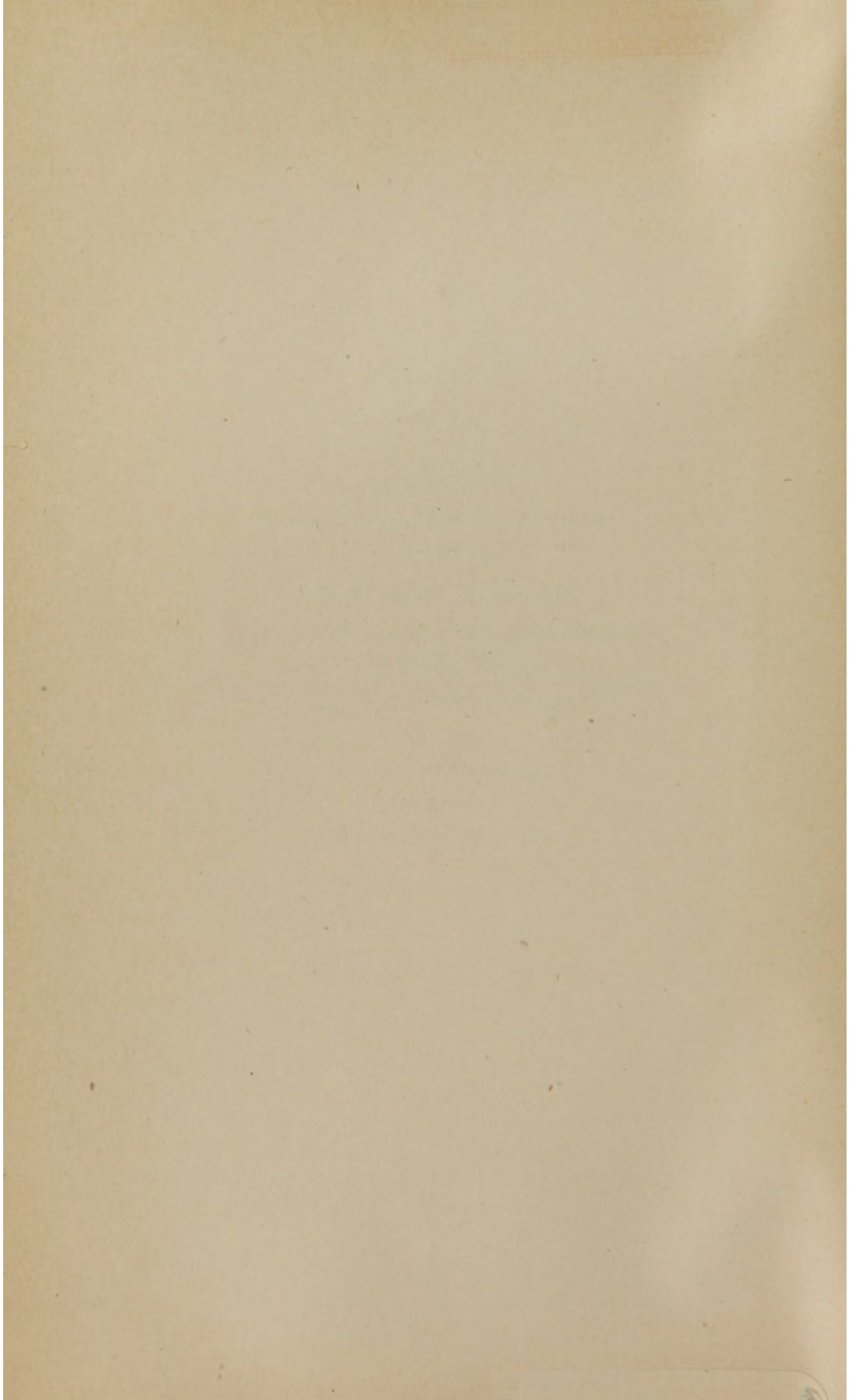
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ALLENTOWN, PA.

THIS MANUAL
IS GRATEFULLY AND AFFECTIONATELY
DEDICATED TO
Rev. A. R. Horne, D.D.,
IN ADMIRATION OF HIS SCHOLARLY ATTAINMENTS,
HIS STERLING QUALITIES AS A MAN,
AND HIS UNTIRING DEVOTION
TO THE
CAUSE OF EDUCATION
BY HIS
FRIEND AND FORMER PUPIL.



PREFACE.

THIS edition has been expressly written to benefit and bless suffering humanity everywhere. Observations during a long and busy professional career, have impressed the writer with the belief that a book giving plain directions as to what should be done in cases of diseases, of everyday accidents and poisoning, as well as the means of studying some of the laws that govern and regulate our being, would be of decided benefit, not only to families, teachers, etc., but to the laity generally. It is with such an end in view, that this manual is placed in their hands, presenting succinctly, but at the same time in a sufficiently comprehensive manner the treatment of the many emergencies which are continually arising in our everyday life.

The language is simple, and technical terms have been (as much as possible) carefully omitted, thus the book makes up a complete guide to health, which can be read and understood by all classes. The sections on home nursing and remedies, the care of children and the observations upon diet, ventilation, disinfection, etc., will be found particularly interesting and instructive. The receipts for the sick are replete with facts and lessons especially commendable to mothers and to those under whose care the sick usually fall. Even in health it is well to know something of the constituents of our food and what purpose each serves in the economy of nature ; and, when sickness, and its effects upon the system, are taken into account, it becomes worthy of our *serious* consideration. A constantly recurring problem is therefore—what food are we to give the sick, and when and how should we administer it?

Here the solution can be found, and the necessary instructions to make each preparation the best of its kind, by its being *well cooked*, palatably seasoned, and attractively served.

“We are indeed fearfully and wonderfully made,” and when we think of the powers, faculties and gifts bestowed upon us we cannot but exclaim with Shakespeare: “What a wonderful piece of work is man; how noble in reason, how infinite in faculty; how like an angel, how like a god.” Health is a physical condition upon which pleasure, success and happiness depend. Upon the health of its people is based the prosperity of a nation, for by it every power is increased, every joy enhanced. Sickness thwarts the best intentions and the loftiest aims, and life is incomplete and a *failure* without the enjoyment of a vigorous constitution. We are continually borne upon the tide of progress and happiness if we possess healthy organs and hopeful hearts. It is indeed wonderful how much we can add to our own personal comfort and length of days by acquiring a practical knowledge of our physical construction and the means of retaining that greatest of earthly blessings—health. It behooves every one to make the best use of their opportunities in learning all they can about themselves in health as well as in sickness. We best meet the purpose of life by doing all we can to preserve the race, by comforting and sustaining, as well as by alleviating the suffering of mankind.

If this little book in any way succeeds in doing this, it will have accomplished the writer’s purpose, and like our dear Master “be ever going about and doing good,” so that all who secure it will find it ever helpful in giving good counsel in sickness and will find it a safe, trustworthy guide in health.

W. P. K.

313 NORTH SEVENTH STREET,
JANUARY, 1895.

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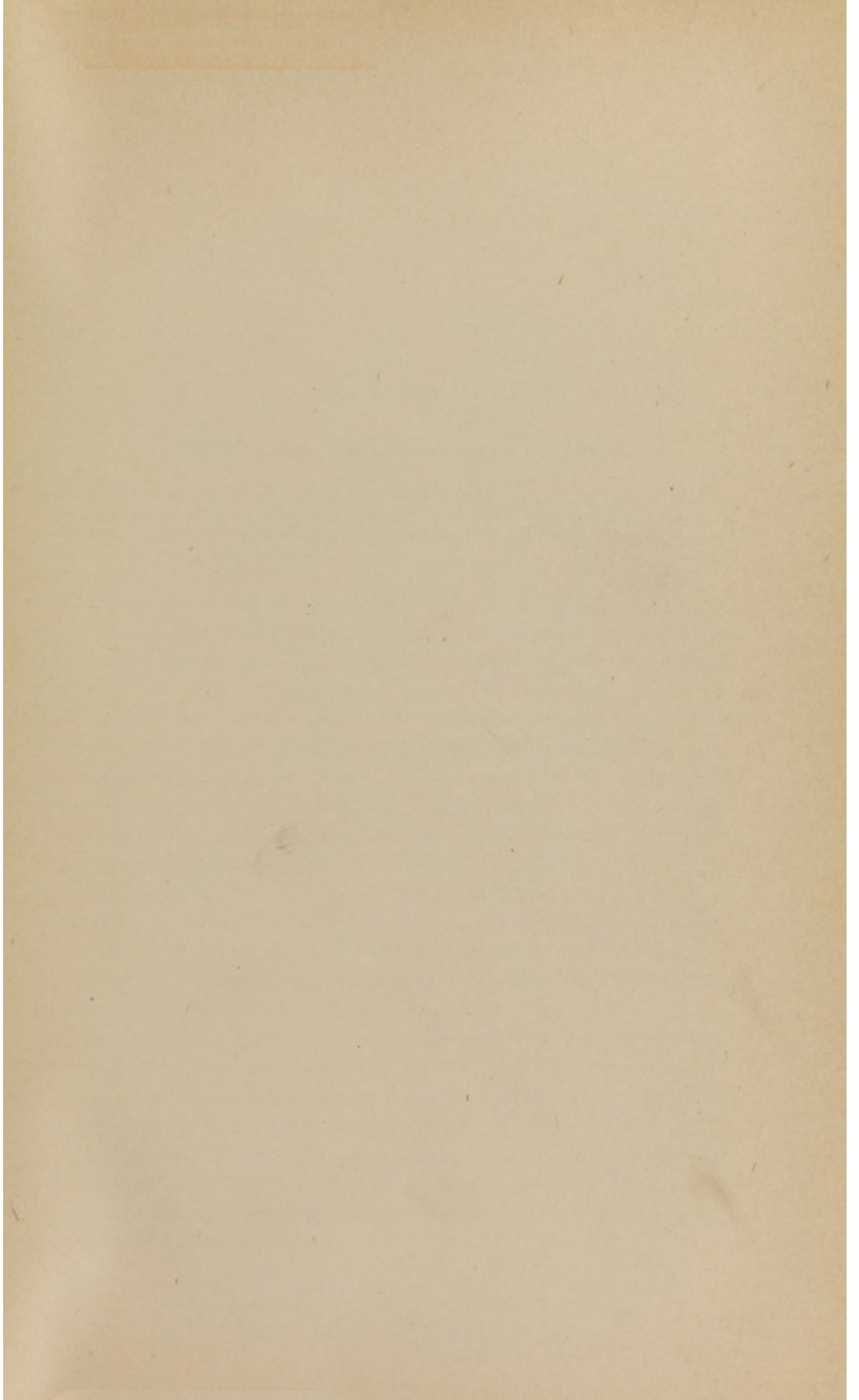
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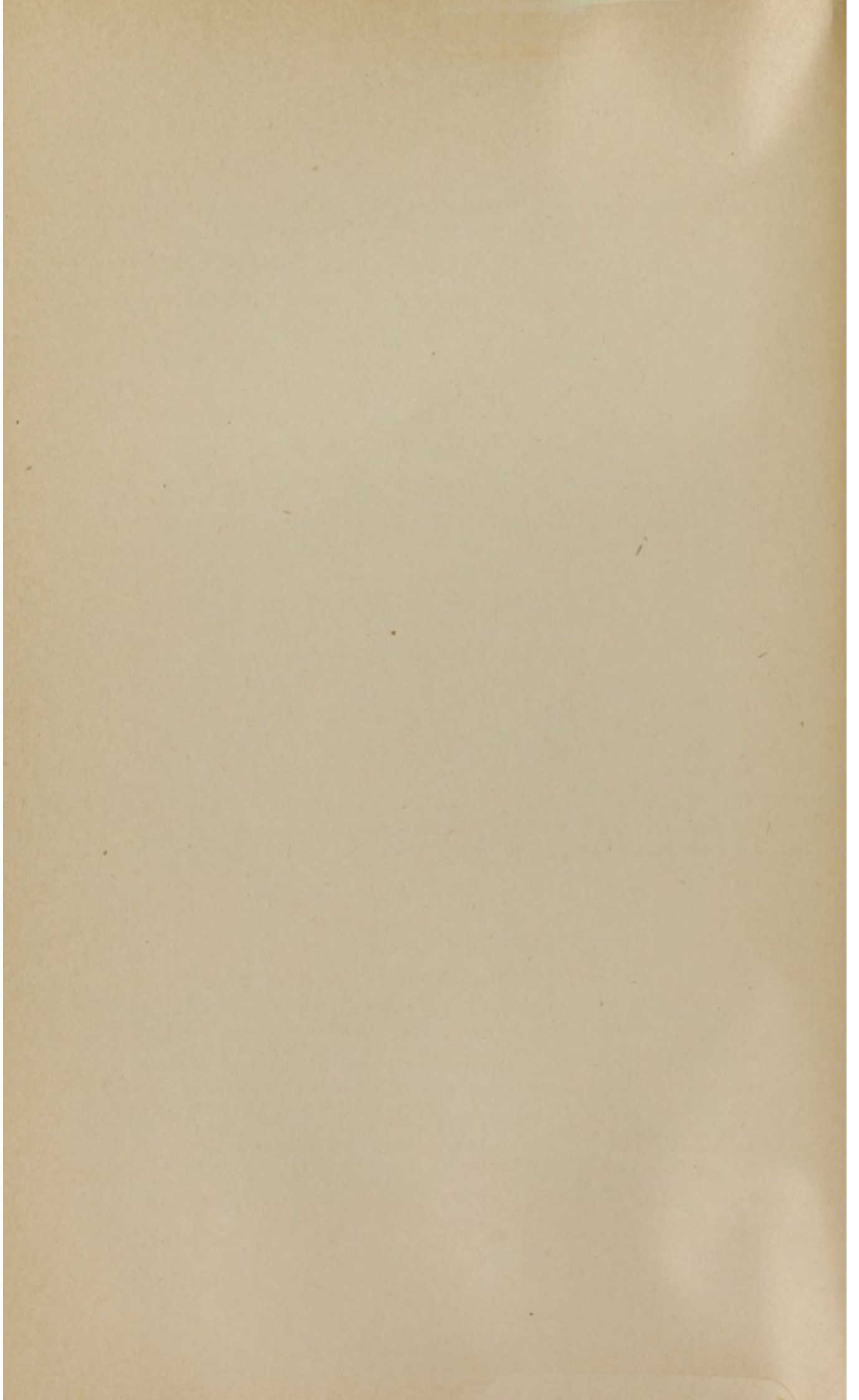
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CHAPTER I.

ACCIDENTS AND EMERGENCIES IN GENERAL.

Introductory Remarks. Shock and its Treatment. How to Carry an Injured Person. Fractures—A Full Description of the Different Kinds of Fractures. What to Do until Medical Assistance can be Obtained. Dislocations—How to Detect Them. Sprains—Their Importance and Treatment.

There is nothing so important in the event of an accident or other emergency as that some person with coolness and sufficient knowledge should assume command and begin to set things straight. It will be found, as a rule, that the simplest things, and usually the most useful, are neglected, while there is a disposition to rely upon cumbrous appliances, often of disadvantage, and sometimes positively hurtful. The object of the writer is to present in a compressed form, for easy recollection and ready reference, a few suggestions as to what should be done in certain cases of emergency, until the arrival of skilled professional assistance. It is not saying too much, perhaps, that what is to be done to give relief or save life, in the great majority of cases, must be done by the unskilled *before* the aid of a physician can be procured. It has been truly said, "for want of timely care, millions have died of medicable wounds."

As far as possible, the use of technical terms will be omitted, although when necessary they will be used, with a brief definition ; but the writer would respectfully suggest, that, whenever possible, the scientific term should be remembered and used, instead of the popular expression for the same thing. A scientific term, the world over, means but one thing ; while a popular expression, in one place, means one thing, and in another, two or three things ; and, possibly, nothing at all.

ACCIDENTS IN GENERAL.

Accidents always, if there are people about, cause crowds to gather around the victim. The first thing to be done is to disperse them ; or, at least, get the people to keep *away* from the injured person. A space of at *least* ten feet on every side should be kept *wholly free* from everybody except the *one* or *two* in charge of the operations for relief. If others are needed for a moment to assist in some special duty, as lifting, removing of dress, etc., they can be specially selected from the crowd, and, having been of service, and not further needed can immediately retire. In numerous instances, the writer has seen persons, who were seriously injured, so closely surrounded by a dense mass of "relatives" and "friends," that it was impossible for the physician to freely use his arms. The *kindest* thing a by-stander can do, is to *insist* upon a free space as large as suggested, and select from the crowd persons to hold themselves in readiness to start for whatever the physician or the individual in charge of the case may require. To show how little real interest the inner circle of the crowd usually takes in the restoration of the patient, it will often be found that it is almost impossible to get one of them to run an errand in the interest of the sufferer.

If the person has been thrown from a carriage, injured by a fall from a height, blow or other cause, while there may be no fracture, or other *external* injury evident, the nervous system has received what is called a "shock." As is commonly said, the person is "faint."

A person suffering from such symptoms should, if possible, be placed flat on the back, with the head, neck, and shoulders *slightly* raised. The limbs at the same time, should be straightened out, if practicable ; so that the heart, already depressed in action, may act at as little disadvantage as possible. The collar, and everything else calculated in any way to impede the circulation toward the head, or obstruct the movements of the chest, should be loosened or removed. If the injury is slight, re-action will soon come on after giving the person a sip of cold water ; brandy and water (teaspoonful in a tablespoonful of cold water) every couple of minutes ; or aromatic spirits of ammonia

(twenty drops in a tablespoonful of cold water) every couple of minutes. Gentle frictions to the extremities, a few drops of cologne water on a handkerchief to the nostrils ; if the weather is hot, the use of the palm-leaf fan ; hot flannels to the limbs and epigastrium (pit of the stomach) ; are all likewise useful in assisting re-action.

By this time, should a surgeon have arrived, he will examine and decide upon the special nature of the injury, and inaugurate measures of special relief. Should he not have appeared, and it is deemed best to remove the patient to the hospital, or his home, a *stretcher* should be secured, or a substitute, in the shape of a settee or shutter, provided. The injured person should then be gently *slipped* on, seeing that the body is supported as much as possible along its length, something thrown over or held over the face, to prevent, as much as practicable, the uncomfortable feeling of being stared at in passing along. Four persons of uniform gait should gently lift the stretcher and slowly carry the person to his destination. In most cities, appliances for carrying injured persons are required to be kept at the station-houses, and can be obtained, on application, as well as the services of a good policeman. The authority of the latter is almost invaluable in keeping away the crowd referred to, and in securing useful attention in conveying the person through the streets. If the person is to be taken to the hospital, a dispatch from a police station will secure from most of them, free of charge, an *ambulance*, with competent persons to take charge of the injured individual.

FRACTURES AND DISLOCATIONS.

It is often evident to the bystander that a fracture or dislocation exists, without knowing what can be done in the interval which must elapse before the arrival of professional assistance. Of course no one but a very ignorant and bold man would attempt to do more than make the sufferer *comfortable* in the meantime.

In instances of suspected fracture or dislocation of the lower extremity, the injured parts should be placed in a comfortable position, and as well supported as possible, to prevent the

twitchings of the leg from the spasmodic action of the muscles of the injured extremity. If necessary to remove the patient to his or her home or the hospital, from the spot where the accident happened, the arrangement of the limb is better made before the patient has been placed on the stretcher or substitute, and a splint of any description applied, for obvious reasons. If found necessary to carry the injured person some distance, and a litter for the purpose cannot be had, the arrangement of the fractured limb against the other, and kept there by handkerchiefs, is often of great comfort to the sufferer.

If the general character of the injury is evident, in sending for the surgeon it is best to tell the messenger, so that, as far as possible, the necessary appliances can be provided before leaving the office.

In the meanwhile, under no circumstances, should the bystanders be permitted to handle the affected part beyond what is absolutely necessary. As a general rule, a much longer time than is commonly supposed, by most people, may pass between the occurrence of the accident and the arrival of the surgeon without serious injury to the patient, or ultimate disadvantage to the fracture. Many persons, thinking that the broken bone must immediately be "set," are apt to accept the services of the first person arriving, asserting himself qualified to do it. Such an individual necessarily makes a more painful examination than is necessary, applies the splint—perhaps not at all the most useful—which the surgeon, arriving later, is obliged, out of consideration for the condition of the sufferer, to acquiesce in.

If the injury is to the upper extremity, the part should be placed in a supporting sling, and kept in a comfortable position. Sometimes, owing to the severity of the injury or the condition of the general health of the person at the time, symptoms of shock, from the mildest expression, to insensibility are observed.

As we are on the subject of fractures it would not be out of place here to give a definition of the word, *fracture*, and an explanation of the many kinds of fracture.

A fracture is the division of a bone into one or more pieces, from violence.

A fracture is *simple* when there is no wound communicating with it ; *compound* when there *is* such a wound ; transverse when the line of fracture lies across the bone ; *oblique* when it slopes ; *longitudinal* when it is more or less parallel to the long axis ; *comminuted* when broken in several fragments ; *complicated* when there is a laceration of an artery or joint, or other additional injury. A "*green stick*" or "*willow*" fracture, is an incomplete fracture, in which some of the bony fibers have given way and the rest have bent, but have not broken. An *impacted* fracture is one in which one fragment is driven into and fixed into the other. If the same bone is broken at two different places, or more than one bone is broken in the same limb, it is called a *multiple* fracture. If cracked only without displacement or separation of periosteum, it is called a *fissure*.

DISLOCATIONS.

A dislocation is the removal of the articulating portion of a bone from that surface to which it is naturally connected. They result from force applied in such a way as to dislodge the surface of one bone from another ; what is called the head of the bone slipping off into a neighboring depression. Of course, the ligaments binding the parts together, are torn and stretched, beyond the point of slight elasticity found in such tissues and the adjacent parts are badly contused.

No directions can be given for detecting a dislocation. It is sometimes evident to the sight, but the possibility of a fracture must be remembered, and the patient made comfortable, without *handling* the injured parts until aid can be summoned. A dislocated joint is always afterward a weak one, and a small part of the force originally used will produce a return of the trouble.

SPRAINS.

In a sprain, the joint is twisted, so that the ligaments binding the parts together are severely stretched or even torn, with consequent violence to the delicate lining of the joint. A sprain is understood to be short of displacement of the surfaces of the bones, which would be a dislocation.

They most frequently occur at the wrist and ankle-joints. The injury is rapidly followed by inflammation of the joint and adjacent parts. Not only is the joint directly weakened by the injury, but if there is a tendency to rheumatic disorders, or the constitutional leaning known as *strumous*, no little future trouble often follows.

There is, of course, great pain, and if it is the ankle or wrist joint injured, often nausea. The tendency to inflammation should be discouraged by resting the whole body, and keeping the sprained joint elevated. Cold water in the shape of a "drip" should be used plentifully until the opinion of a physician can be obtained. Complete rest must be kept up until the inflammation shall have passed and the probably torn ligaments been restored. Later, stimulating liniments can be used. Often a fracture of the shaft of a bone results in a speedier restoration than the sprain of an ankle-joint, especially if the proper care is not observed, in case of such an accident. Hops, vinegar and soap, when boiled together, is an excellent domestic application for sprains. I prefer the following liniment — soap liniment, tincture aconite root and chloroform of each, one ounce, to be applied every few hours.

CHAPTER II.

ACCIDENTS AND EMERGENCIES.—CONTINUED.

Collapse or Shock in Grave Accidents and What to Do—Full Instructions. Syncope or Fainting. Burns and Scalds, from Fire or Hot Water and Steam. Burns by Lime, Caustic-Potash and Other Alkalies. Burns by Acids—Sulphuric (Oil of Vitriol)—Nitric (Aqua Fortis)—Etc. Baking-Soda—White of Eggs—Lime-water and Linseed Oil (Carron Oil). Splendid Home Dressings.

Mild forms of shock (or collapse, as it is sometimes called) are often, by the non-professional, confounded with fainting (syncope). As far as symptoms are concerned, the affections are analagous, varying in degree and duration, rather than in variety, the duration of fainting being usually much shorter.

Life may be destroyed by certain agencies as a blow upon the "pit of the stomach," or a sudden and powerful emotion of the mind, and no visible trace be left in any part of the body. This is called "death from shock." This is the extreme result of shock. Usually the patient lies in a state of utter prostration. There is a pallor of the whole surface; the lips are bloodless and pale. The eyes have lost their lustre, and the eyeball is usually partially covered by the drooping upper lid. The nostrils are usually dilated. The skin is covered with a cold, clammy moisture, often gathered in beads of sweat upon the forehead. The temperature is cold, and perhaps the person shivers. The weakness of the muscles is most marked; as the phrase is, "the patient is prostrated." The mind is bewildered, often insensibility occurs, unless aroused: and in many cases, nausea and vomiting. In *extreme* cases, the nausea and vomiting are not so apt to occur.

Sudden and severe injuries, particularly if *extensive* in character, and involving a large amount of texture, cause shock. Burns—especially of children—extending over a *large extent of surface*, even if not extending to a great *depth*, are often followed by shock, and this complication requires often the *earliest* attention.

Certain poisons, as tobacco, and tartar emetic, act in this manner, depressing the system. So does a current of electricity, as is seen in the effects of lightning.

Loss of blood produces or aggravates shock. Hence a *slight* injury, with *much loss of blood*, may be attended with more shock, than a comparatively more severe injury *without* the loss of blood. Debility favors the influence of shock. A weak system is more easily impressed by it, and, as should be expected, *re-action* from its effects is longer in taking place.

As the vital powers of life decline, from engrafted or natural causes, there is less power available as a reserve to meet contingencies. In youth there is an available fund of this kind; in the adult the resources of the system may be equal to the task of ordinary maintenance, but in the aged, as said before, there is much less ability to deal with sudden losses of strength. The *aged*, therefore, are slow to *rally* from the effects of shock. They have more power of *resistance* than the young. The shock does not *readily* make an impression, as it does in the *young*, but when it *does*, the impression *endures*. In the young the impression is more easily *made*, but sooner *subsides*.

Treatment of shock should consist in first placing the patient as flat on his back as possible with the head *raised not over an inch*. This is an important point in cases of ordinary fainting, and whenever the vital powers are depressed, stimulants are required. The aromatic character of brandy enables it to be retained by the stomach when whiskey and other forms of alcohol are rejected. A teaspoonful in a tablespoonful of water every minute, until six or eight have been taken, is the best way to give it. If the temperature of the body is *raised* by it, and there seems a revival of the action of the heart, *enough* brandy has been given. Twenty drops of the aromatic spirits of ammonia in a teaspoonful of water may be given every couple of minutes, until four or five doses have been taken. The application of heat to the extremities and "pit of the stomach" is very useful. Flannels, wrung out in hot water properly wrapped up, should not be neglected. In some households, a tin can, somewhat concave on one surface, to fit the curvature at that point, and with a stopple in the upper surface for the introduction of the hot liquid, can be usefully employed for applying heat to the epigastrium ("pit of the stomach"). Mustard plasters to the same places are often used,

but they are far inferior to heat for the purpose, if that can be applied, and so apt to blister, thereby making it impossible to use anything else on the surface, that some reluctance is felt in advising them. Nausea and vomiting often occur in shock, and can best be allayed by getting the patient to swallow whole, small chips of ice. Ice, by the way, can be easily chipped by standing the piece with the grain upright and splitting off a thin edge from the point of a pin.

Ammonia (smelling salts), applied to the nostrils, is often useful; and cologne, on a handkerchief, is often pungent enough to be of service. A physician (and he alone) will no doubt resort to hypodermic injections of drugs to revive the patient. The drugs used in this way and found to be of great efficacy are: morphine, nitro-glycerine, digitalis, strychnia, etc. Whiskey also may be administered hypodermically to bring on the re-action which is necessary for the revival of the patient.

SHOCK FROM BATHING IN OR DRINKING COLD WATER.

In the hot weather, cases often occur where death or great prostration ensues from drinking ice water, or bathing in cold water, while the body is exhausted from heat or exercise. The same thing happens to animals under similar circumstances. Cold water in hot weather, if the person is *heated*, should always be drunk in small quantities at a time. If not, although neither death nor prostration may follow, a troublesome derangement of the digestive tract is likely to ensue, often laying the foundation for other troubles.

When the body is heated, or exhausted, a bath in cold water ought never to be taken. A sponge bath will answer, until the vigor of the body has had time to be restored.

These troubles can be referred to shock, and should be *promptly* treated as such, according to the given directions.

SYNCOPE OR FAINTING.

Persons often faint without any proportionate cause. Debility of the nervous system *favors* it. While the writer would not like to say that the tendency to swoon can be intentionally acquired, he is compelled to think it can be unintentionally perpetuated

under many circumstances. The treatment *usually* followed, is perhaps, the best; but people are apt to *raise* the *head* of the patient. Even in carrying a person to the bed or sofa, it should be kept lower than the rest of the body. Indeed, there is no better restorative in such cases than such a relative position of the extremities. Should the person be sitting in a chair at the moment, do not remove him, but stand behind the chair, reach the hands over in front, so as to grasp the sides of the back of the chair, take a step backward to give room, and then slowly depress the back, supporting the head until the floor is reached. An assistant, by holding to the dress over the knees, will prevent lateral slipping off from the seat of the chair. It is so rapidly and easily done, besides so effective in its operation that little else remains to be done. Usually the back of the head of the patient scarcely reaches the floor before consciousness returns.

BURNS.

There are no more frequent, distressing, and dangerous accidents than those which result from burns; they cause great pain often amounting to agony, local injuries of a most serious character, and permanent constitutional derangement, even if death does not immediately or quickly ensue. The first rule to be observed in the event of the clothes catching fire, is to avoid running away for assistance, as the motion will only fan the flame, and increase the evil. Presence of mind in the sufferer is rare on such an occasion, but the best plan is to lie down and roll, on the floor, screaming of course, for assistance. Whoever answers the call should snatch up a rug, or piece of carpet, or other woolen article, and roll the person in it, so as to stifle the flames, leaving only the head out for breathing. If no carpet or rug can be had, then take off your coat and use it instead. *Keep the flame as much as possible from the face, so as to prevent the entrance of the hot air into the lungs.* This can be done by beginning at the neck and shoulders with the wrapping. If the burn or scald involves considerable *surface*, symptoms of shock are observed, from the extreme of mere weakness to that of utter prostration. This at *once* requires prompt attention and a few

drops of aromatic spirits of ammonia in water, or a little brandy, should be given every few minutes until a return of the strength is seen. A burn, superficial as far as depth is concerned, but covering a large *surface*, especially in the case of small children and aged people, is usually considered more dangerous, as far as *life* is concerned, than a burn *smaller* in extent but deeper and more complete. Never mind how slight the injury *appears*, if there is reason to suppose that the heated air or steam has been *inhaled*, no time should be lost in obtaining the opinion of a physician as to the result of the injury to the *throat* and *lungs*.

TREATMENT.

If the burn or scald is *slight* in character, one of the best applications is the water dressing. This consists of several thicknesses of wet towels. They must be dipped in cold water (or water containing some baking soda) squeezed out, and changed every sixty seconds. If not changed, the wet towels really act as *poultices* to the part, *inviting* what we should try to *prevent*. In a short time after the pain shall have moderated, one of the best things for use, and readily procured, is a dressing of pure hog's lard. The great object is now to exclude the air from the blistered or raw surfaces, and it is a usual plan to cover them with flour, and then wrap them in wadding, or cotton wool. A good application is either of the above substance saturated in carron oil which is a composition of equal parts of lime water and linseed oil; this is extremely cool and soothing, and it greatly assists the healing operation; it should not be disturbed for some days, unless the discharge should be great, and the wounds painful, in which case a fresh application of the same should be prepared, and put on immediately on the removal of the other. If the burn or scald, particularly the latter, is superficial in character, a simple and useful dressing is the application, by a brush, or a soft wisp of old muslin, of the white of egg to the injury. As soon as the first layer dries, another should be used. In superficial burns and scalds, this treatment is especially grateful.

A lather of soap from the shaving-cup, applied by the brush in the same way, is often followed by immediate relief. These

substances appear to protect from the action of the air the irritated nerves beneath. As before said, do not apply "cotton" to the injury, as sooner or later it increases the pain, and without having done any special good, besides it is difficult to remove.

If a physician has been sent for, it is best not to make any domestic applications to the burned parts. Such things frequently prevent him from using those better adapted to the wants of the person, and keep him, too, from forming a correct estimate of the real extent of the injuries. When the effects of the burn or scald extend *deeper*, involving the sub-cutaneous tissue, or even the parts beneath that, as the muscle, other considerations must not be overlooked. There probably will be more shock. The portion whose vitality has been *destroyed* by the burn cannot do otherwise than become detached from the uninjured parts beneath, thrown off in the shape of shreds or larger masses, during the process of sloughing. After water dressing has given relief to the part, and this is sometimes sooner secured by adding laudanum (tincture of opium) to the water a system of poulticing should be commenced. After being used for a short time, a mark of well-defined *separation* is seen at the junction of the burned and unburned parts. The edge of this dead portion often falls away, like a piece of wet buckskin, showing, except at the *edges*, a union of the dead and living parts.

This process of separation continues for some time, attended with such profuse discharges that the poultices must be *changed* several times a day to preserve neatness, but after a while the *entire* mass lies loose, attached only at the centre to a raw suppurating surface below. A short time after the whole mass becomes detached and is removed. Then at the edges and surface of the uninjured parts a process of filling up the wound by "granulation" must commence. The newly formed substance begins first to be deposited at the edges of the wound, generally reducing the area. This process, in such a wound, the result of a burn, is much less rapid than might be supposed by the unprofessional, and is attended with much suppuration (making of pus.)

Whenever the destructive process of *suppuration* goes on in the body, from whatever cause, there is *exhaustion* of the strength. This must be combated by a judiciously selected diet; and

sometimes by appropriately selected tonics. Often the surface undergoing repair is benefited by local applications; these can only be rightly chosen by a physician, so nothing need be said about them here.

As remarked above, in burns beyond a certain degree of destruction, the process is one of repair rather than restoration. Instead of the *destroyed* portion being *replaced* the reparative material is of *such* a character that it undergoes contraction; and great deformity may result from its dragging effects upon adjacent healthy parts. These effects may often be mitigated in extent but can not be wholly *prevented*. Thus, if the arm, at the elbow, is burned or scalded, so that a scar results, the contraction of this tissue will often draw up the forearm to a right angle, from which it can not be straightened. A burn or scald at the front of the neck is often followed by a dense white scar, which contracting, draws the chin down toward the chest, and the lower lip down toward the chin, ending in the greatest deformity. The medical attendant is sometimes unjustly censured for these things.

From what has been said, it must be observed that burns and scalds practically differ but little from each other. Scalds are usually more confined to the *outer* cuticle, unless the substance containing the heat is viscid in character, as oil, pitch, etc., and does not rapidly run off the part with which it came in contact. As far as popular assistance is concerned, the two may be regarded as presenting no essential difference.

Cloths wet with cold water may be kept constantly applied, and if the destruction of the skin is not too complete, nothing more will be required.

BURNS BY LIME, CAUSTIC POTASH, AND OTHER ALKALIES.

As a rule these are troublesome, since there is not only removal of the cuticle, superficial skin, but destruction of the soft parts *below*. Lime is a powerful *alkali*, and rapidly destroys the parts with which it comes in contact. It is useless to attempt to pick it off, for the fingers remove no more than they get hold of, so an application should at once be made of something to counteract the alkali, or form a comparatively harmless preparation.

Vinegar diluted with water, the acid in lemon juice or any other dilute acid, will answer as a direct antidote. These things do not *undo* what has been *done*, they only prevent *further* mischief. The portion of the tissue *already* destroyed, must *separate* as if it had been destroyed by *heat* in the case of a burn or scald; and must be aided by the same means, heal in the same manner, and be followed, of course, by the same ultimate contraction of the reparative material. What has been said about the alkali known as lime, may be said about the other alkalies: potash, soda, ammonia, etc.

BURNS BY ACIDS—SULPHURIC ACID (OIL OF VITRIOL),
NITRIC ACID, (AQUA FORTIS,) ETC.

As *alkalies* destroy the living tissues they come in contact with, so will *acids* of sufficient concentration. In such cases, application of water will dilute them beyond their capacity to injure. Alkalies applied neutralize acids into harmless preparations. Common earth, gathered almost anywhere, applied in handfuls, contains alkali enough of one kind or another to entitle it to the consideration of being one of the best (and at the same time most easily secured) applications in cases of burns by acids.

In all burns and scalds exclude the air as soon as possible. This is generally more readily accomplished by wrapping the burned part with gauze or cotton soaked in oil. Cloths wrung out of a solution of "baking soda" or boric acid are said to relieve the pain promptly. A dressing of flour can usually be obtained at once, and answers as a temporary dressing.

The dressing should be allowed to remain on as long as possible. All blisters should be pricked and their fluid contents allowed to escape. Burned fingers should not be allowed to touch each other.

In the treatment of any burn the utmost cleanliness should be observed. Maturation from burns is no more necessary than from any other wound. They should be dressed antiseptically. This can be easily accomplished by having the oil used, slightly carbolized. Carbolized or iodoform or bichloride gauze should be used.

CHAPTER III.

ACCIDENTS AND EMERGENCIES.—CONTINUED.

All Kinds of Wounds and Contusions or Bruises—How to Treat Them. Bleeding from the Mouth or Rectum in Case of an Injury. Mashed Fingers or Toes. How to Stop Bleeding from Wounds. Antiseptic Agents in Wounds. What to Do where the Lungs or Bowels Protrude. The Extraction of Needles and Splinters. What to Do in Bites of Venomous Serpents. How to Treat the Bites of Insects. Valuable Suggestions in the Bites of Dogs or Other Animals. Gunshot Wounds, etc.

In studying wounds we will adopt the classification customary in works on surgery, *viz.*, contusions, contused, lacerated, punctured, poisoned, incised and gunshot wounds.

Contusions are what are usually known as bruises and almost all wounds of the soft tissues caused by blows. They are sometimes very painful, and often followed by discoloration, due to the escape of blood under the skin from the small vessels of a part. A black eye is a familiar example of this sort of an injury. They are sometimes very simple, as in the illustration just given. Such contusions are best treated at first, when painful, by the application of cold, wet cloths (water and tincture of arnica in equal parts.)

The *quantity* of blood escaping from the ruptured vessels depends, in a large degree, upon the *size* and *number* of vessels injured, but in a larger degree upon the space into which the blood can accumulate. A single divided vessel in the *scalp*, owing to *looseness* of the tissue there in which the vessels are distributed, may permit a swelling, the result of the escape of blood, extending in area over a half of one side of the head.

In contusions, the first conspicuous symptom is that of shock, which generally, but not always, bears a relation to the extent of the injury. Thus a crushed finger is attended, as a rule, with much less shock than a crushed hand or foot. Contusions of

certain parts, as the larger joints, breasts, and other portions of the body, are followed by most *severe* symptoms of shock. The pain is not always as severe as might at first be supposed, as the nerves may be so much injured as to be deprived of their ability to receive and transmit the necessary impression. The swelling depends, at first largely upon the *blood*, poured out by the injured vessels, and as just mentioned, this depends upon the *number* and *size* of the divided vessels, as well as upon the character of the part containing them.

Contusions of the chest or abdomen may be very serious, for beside the external bruises, important, internal organs may be injured. Evidence of this may be seen in spitting of blood or vomiting it, or passing it from the bowels or from the bladder, or there may be great depression. In such cases little can be done by the non-professional person beyond securing complete rest and sustaining the strength of the sufferer by means of warmth applied externally, and careful stimulation internally, as described in speaking of shock—to which reference has been made.

A common accident is a "mashed finger," from the member getting caught in a closing window, or want of precision in using a hammer. The firm bone beneath and the blow above usually contuse (bruise) the tissues (veins, vessels, muscles, etc.) between, and often the pain and other symptoms last some days.

Wrap up in a bandage of old muslin, keep constantly wet with cold water. If there is much pain add laudanum or the tincture of arnica. These are not curative agents but they lessen the pain by benumbing the injured nerves. It is unnecessary to say that a "mashed toe" should be treated in the same way.

A wound is a recent solution of continuity in any soft part of the body, occasioned suddenly by external causes, and generally attended with hemorrhage (bleeding) at first. Personal peculiarities of the patient, and the health or disease of the wounded part of the body, may exert much influence upon the hemorrhage. Usually it ceases in a short time by the coagulation (clotting) of the blood in the severed extremity of the vessel, without further attention than the application of cold, which favors contraction of the divided bloodvessels as well as those leading to

the injured part. Should an *artery* or branch have been divided (indicated by a *spurting* of a spray of bright blood at each beat of the heart), the bleeding may not cease at once. To stop it, the firm pressure of the finger for some time to the point of division should be used, to diminish the size of the vessel at that point, until a clot is formed there.

Sometimes, pressure to the supposed seat of the injured vessel does not *reach* the artery. In such a case, the pressure must be made to some known trunk between the original supply of the blood and the injured branch. Thus, if the finger or the toe is the seat of the arterial hemorrhage, firm pressure applied each side of the finger close to the hand, or toe close to the foot, compresses the arteries passing along to be distributed to the extremity. If the hand or foot is the seat of injury, pressure on the wrist, over the point where the artery is felt for the "pulse," or at the inside of the ankle, will materially retard the passage of the blood beyond these parts. Pressure applied by the fingers, with broken ice in a towel bound round the arm, in conjunction with the elevation of it, will often stop the hemorrhage, or retard it, until professional aid is secured. If the foot is the seat of the injury, elevate the whole limb in the same way, applying pressure and pounded ice on the same principle.

In wounds of the scalp, there is usually much loss of blood, owing to the abundant blood supply of that part. The firm skull below offers a good point for the pressure, and the vessel rarely fails to be compressed if the thumb is applied over the point of division of the severed vessel. Permanent pressure may be exerted by means of a temporary tourniquet to the injured artery or vein in this way: A common folded handkerchief, with a firm, sharply-defined knot tied at the middle, or a long strip of muslin torn from a shirtsleeve, or even a suspender, with a suitable knot in it, is rather loosely tied around the arm, and the slack taken up by twisting with a cane or stick until the knot, kept over the vessel, exerts enough pressure to prevent the passage along it of the blood. This is easily done if you proceed to it quietly, without talking; especially if previously practiced once upon the extremity of a friend. Get the knot over the artery, keep the knot

there, and tighten until the pressure of the knot closes the vessel. Foreign matters such as have been introduced into the wound at the time of the injury or subsequent to it, of course, should be carefully removed.

Having thus referred to certain features *common* to most wounds, the special, and what may be called the *distinctive* points of each class, according to the arrangement herein adopted, will now be given.

CONTUSED WOUNDS.

These are cuts or tears accompanied with bruising of the tissues. They are to be treated like lacerated wounds. Unless they bleed freely warm applications are better suited to such wounds than are cold ones.

INCISED WOUNDS.

Incised wounds, or clean cuts, if simple and small, call only for a piece of sticking plaster, and perhaps a bandage. If large, the edges should be brought as near together as possible, and supported so by sticking plaster, or bandages, or the hands, till the coming of the surgeon. If an entire part be cut off, as an ear, or a nose, or a toe, or a finger, it should be cleaned with luke-warm water, (disinfected by the addition of a few drops of Carbolic Acid) and put in its place, leaving to the surgeon the decision whether it be worth while to try to save it. Some very remarkable cases of re-union of such parts are on record, and an attempt to save them is *not to be lightly rejected*, especially at this antiseptic day in Surgery.

Cuts of the walls of the abdomen and cuts of the chest-wall should be cleansed, if dirty, with slightly carbolized warm water and covered with a clean white cloth soaked in carbolized warm water and kept warm and wet by a gentle stream of water, or by laying on it a sponge soaked in warm water, which should be constantly *renewed*. This is also the treatment resorted to (until the arrival of a surgeon) in cases where portions of the bowels or of the lung protrude.

Cut throat wounds usually require, in addition to the ordinary treatment of the wound, that the head shall be bent

forward, with the chin close to the breast bone, and kept there. It may be necessary to stitch these wounds.

LACERATED WOUNDS.

Lacerated wounds are tears with ragged edges, such as are often caused by machinery, bricks, clubs, timbers, stones, dull tools, glass, hooks, etc. These always require surgical skill. Till it can be obtained, however, the torn parts can be placed in as nearly their natural position as possible (after removing, with a stream of lukewarm water, carbolized, squeezed from a sponge, any foreign matters that can be so gotten rid of) and covered with a cool, wet cloth, or a cloth soaked in laudanum.

PUNCTURED WOUNDS.

Punctured wounds are made with sharp-pointed objects, like arrows, pins, needles, tacks, fish-hooks, glass, thorns or splinters.

Of these, *pin wounds* rarely do much harm. If a needle is run into the flesh and comes out, always see that it is all there; and if any part, from point to eye is missing, call a surgeon. Meanwhile keep the wounded part perfectly still, and make no attempt to remove what remains. The broken needle should be carefully kept and shown to the doctor, as he will then know what to look for in his examination.

Thorns rarely do much harm unless they are poisonous, and wounds of this kind we shall consider later.

Splinters under the nails sometimes defy attempts at removal by the non-medical. But the way to succeed is to scrape the nail as thin as possible over the splinter, then split it or cut a little tongue out and remove the splinter.

Splinters of glass are quite beyond most people's skill. They are best treated with cold applications, and left otherwise entirely to the surgeon.

If a large splinter enters the body, an attempt may be made to pull it out; but a surgeon should be called without fail, and whatever of the splinter has been extracted, carefully saved for his inspection.

POISONED WOUNDS.

Poisoned wounds may be considered here, as they are usually punctured, and result from the bites or stings of animals or insects.

The bites of venomous serpents usually demand the prompt removal of the part bitten. It may be cut out instantly by any one who has the nerve to do it. Before this, perhaps, the part should be encircled, above the wound, with a tight ligature, and, if small enough, thrust into the mouth and sucked hard so as to extract the poison. The immediate application to the wound of hartshorn is of advantage and a knitting-needle, or nail, heated to redness, may be thrust into it. At the same time, whiskey should be given, in doses large enough to cause drunkenness, and the intoxication kept up till medical aid can be secured.

The stings of insects—of tarantulas, scorpions, centipedes, etc., are to be treated with cold, wet applications—wet earth is a very good one. The application of a drop of hartshorn or wet salt often gives great relief. The bites of cats and rats are sometimes followed by severe inflammation, but the first treatment should be simply cleansing the bites, sucking them, perhaps, and applying cold to them for a time.

The bites of dogs are a terror to many people, while others have little fear and are very seldom bitten. If any one be bitten by a dog in good health, only the simplest treatment will be necessary. If the dog be sick, local inflammation, or severe constitutional disturbance may follow. In case of reasonable suspicion, the same course should be adopted as for bites of venomous snakes. Of course, too, sound medical advice will be necessary.

GUNSHOT WOUNDS.

This is another class of injuries, occasionally met in civil life, though not common. Ordinarily little can be done for them, except by a surgeon; and perhaps all that is advisable before he comes is to note and remember the position of the body or the wounded part at the moment it was struck, and the direction from which the missile came, so that these facts may help the surgeon in his search for it. There is rarely much bleeding from gunshot wounds, except when large vessels are divided. In such a case the bleeding may be controlled as described under the head of hemorrhage.

CHAPTER IV.

ACCIDENTS AND EMERGENCIES.—CONTINUED.

Asphyxia—Its Meaning. Asphyxia from Drowning—Resuscitation. How to Determine whether Life is Extinct. How to Save Lives. Methods of Producing Artificial Respiration. Asphyxia from Strangulation by Hanging. Asphyxia from Suffocation with Noxious Gases and Vapors from Poisonous Mines, Wells, or Privies, from the Fumes of Charcoal, from Common Burning Gas and from the Gas of Bituminous and Anthracite Coal. Asphyxia from Narcotic Poisons—What to Do. Foreign Bodies in the Eye, Ear, Throat, Windpipe and Nostrils. Sunstroke and Heat Prostration—Prevention and Treatment.

Asphyxia means, literally, without pulse, or suspended animation. It is produced by the non-conversion of the impure or venous blood in the lungs into the arterial or pure blood. The supply of good air to the lungs being cut off by some cause, the necessary purification at that point no longer takes place, and death of the entire body ensues from the absence of pure blood, or the presence of *impure blood*.

There are several varieties of asphyxia, as : 1. Asphyxia from submersion as in drowning ; 2. Asphyxia from mechanical causes, as by strangulation, or hanging or by foreign bodies in the windpipe or its approaches. 3. Asphyxia by inhalation of gases, known as suffocation. 4. Asphyxia from torpor of the medulla oblongata (an important portion of the brain, connecting the cord with the brain) produced by insufficient respirations.

DROWNING.

In asphyxia from drowning if natural breathing has ceased, the first thing to be done is to free the body from any clothing that binds the neck, chest or waist, turn it over upon the face for a moment, thrusting a finger into the mouth and sweeping it around, to bring away anything that may have gotten in or accumulated there. Then the body should be laid out flat on the

back, with something a few inches high under the shoulders (anything will do ; a coat, a shawl, or stick of wood), so as to cause the neck to be stretched out and the chin to be carried far from the chest. The tongue should now be drawn well forward out of the mouth, and held by an assistant, or, if there be no one to do this, a pencil or a small stick may be thrust across the mouth on top of the tongue and back of the last teeth, to keep the mouth open and the tongue out of the throat. An effort to secure artificial respiration should now be begun. The simplest way to do this is for some one to place himself on his knees behind the head, seize both arms near the elbows and sweep them around horizontally, away from the body and over the head till they meet above it, when a good, strong pull must be made upon them and kept up for a few seconds. This effects an *inspiration*—fills the lungs with air, by drawing the ribs up, and thus enlarging the cavity of the chest. The second manœuvre consists in returning the arms to their former position alongside the chest, and making strong pressure against the lower ribs, so as to drive the air out of the chest and effect an act of *expiration*. This need occupy but a second of time. This should be kept up for a long time, and not abandoned until a competent person has ascertained that the heart has ceased to beat. The cessation of the pulse at the wrists amounts to nothing as a sign of death ; and often life is present when only a most acute and practised ear can detect the sound of the heart. In a moderately thin person, deep pressure with the finger ends just below the lower end of the breast bone may sometimes reveal pulsation in the aorta, the main artery of the body, when it cannot be found anywhere else. It is important that the wet clothing shall be removed as soon as possible from a drowned person. This can always be done without interrupting the artificial respiration. If exposure must be avoided, something may be laid over the body (a coat, a shawl, a blanket, or a sail, if on board a ship,) and the wet clothes loosened under it and drawn down over the feet. Then the body may be quickly slipped into something dry, and covered with some other fabric, if the first has become wet, while this, in its turn, is pulled away from underneath.

Some stimulant is to be given as soon as it can be swallowed. Teaspoonful doses of whiskey or brandy, in a tablespoonful of hot water, may be given every few minutes, till the danger point is passed.

As natural respiration begins to be attempted it should be aided as much as possible by timing the artificial to it. It may be stimulated by applying smelling salts to the nose, by slapping the skin, or by dashing *hot water upon the chest*. Little by little it will take the place of this, but must not be left unwatched for sometime.

Nothing but danger from cold or pressing necessity should prompt the removal from one place to another of a person who is being resuscitated, before this has been accomplished. After resuscitated the person must be put in a warm bed, being carried carefully with the head low, and a watch kept to see that the breathing does not suddenly stop. *When natural breathing has not ceased*, all the steps just described should be carried out, with the exception of artificial respiration. But this should be had recourse to upon the first evidence that natural respiration is failing.

STRANGULATION.

Strangulation, by hanging, or by anything which compresses the windpipe from the outside, is to be treated by re-establishing the respiration in the same way as for drowning. The obstruction is of course to be removed, and natural respiration stimulated or artificial respiration employed.

Suffocation with noxious gases or vapors, (carbonic acid gas) calls for instant removal to the fresh air and the establishment of natural respiration, or of artificial till the natural is re-established, as described in speaking of drowning. Gases like carbonic acid, the fumes of charcoal, and the collection in mines, wells or privies, are very dangerous to life. The removal of a person from a well full of poisonous gas is a very difficult and delicate matter. Some attempt may be made to dislodge or dissipate the gas. Buckets of water may be dashed down, or an open umbrella lowered by the handle and rapidly drawn up a number of times. But these

efforts must not consume any more time than is required to prepare a man who can be lowered, securely *fastened to the rope*, so that he can attach another rope to the person overcome in the well. The rescuer must be brave, cool and strong, and those who lower him no less so. He may be somewhat protected by wearing a sack over his head, or having a thick veil over his face. But everything will depend upon the rapidity with which he and his comrades can do this work.

ASPHYXIA FROM NARCOTIC POISONS.

For this form of asphyxia the reader is referred to the articles on narcotic poisons, (opium, hyoscyamus, belladonna and stramonium).

BURNING CHARCOAL.

Certain gases (carbonic oxide gas) of a very poisonous character, are given off during the burning of charcoal, and when inhaled for a sufficient length of time, rapidly prove fatal. The person quickly drops insensible and dies of asphyxia in many respects like the person who has succumbed to carbonic acid gas, described under the head of "Suffocation with noxious gases or vapors." The same treatment should be employed in this case.

COMMON BURNING GAS.

Persons retiring at night often leave the gas "turned down," and the flame becomes extinguished. Enough gas often escapes to give serious trouble to the sleeper unless the room is well ventilated. Persons have been known to "blow it out" as they would a candle, and suffocation more or less complete has followed. Treat as in asphyxia from other gases already described.

FOREIGN BODIES IN THE THROAT AND WINDPIPE.

Choking caused by something sticking in the throat, gullet or windpipe, demands its removal as soon as possible. It is not always easy to tell which of the latter passages is clogged, but usually there is active irritation, with coughing, when a foreign body lodges in the windpipe, while swallowing can be done quite readily. When the gullet is stopped it is usually impossible to

swallow, and there is little or no tendency to cough, no matter how much the breathing may be interfered with. In reference to the throat, it is not so hard to tell, for one can usually see or feel with the finger the offending body.

If a foreign body be within the reach of two fingers, it may be pretty easily removed. If not, a pair of blunt-pointed scissors may be used like forceps. Or a hairpin may be straightened out and one end bent round so as to make a loop, and this used to try to dislodge the foreign body; or the handle of one blade of a pair of scissors may be used in the same way. It has been stated that for foreign bodies in the throat, such as pieces of meat, etc., a simple mode of relief is to blow forcibly into the ear while at the same time the nostrils are closed by compression. Such a plan is so easy of execution that it is certainly worth trying.

If foreign bodies get into the windpipe they will as a rule soon be coughed out, or may require surgical skill for their removal. A moderate blow on the back with the open hand, or a quick strong squeeze of the chest, sometimes aids the coughing act; and inverting the body will assist in dislodging the foreign body if it is not too tightly wedged in.

When strange things like coins, marbles, slate pencils, nails or small toys are swallowed by children (or adults), it is a big mistake to give a purgative. The proper plan is to let the bowels alone and to give plenty of good solid food, so that the foreign body may be surrounded with the waste and carried out of the body without injuring the walls of the intestines.

FOREIGN BODIES IN THE EYE, THE EAR AND NOSTRILS.

Particles of cinder, dust, or fragments of metal, often get into the eye, and cause a good deal of trouble. Sometimes they are dislodged, and washed out by the extra secretion of tears brought about by the irritation produced by the body. Sometimes this process does not give relief, and it is necessary to resort to some process of extraction. A popular, and often useful plan is to take hold of the lashes of the upper lid, separate it from the eyeball, so that the lashes of the lower lid will slip up in the space, acting as a brush to the inner surface of the upper eyelid. This,

of course, can not remove anything, as a rule, from the eyeball. A better way is the usual one of holding a knitting needle over the upper lid, close to and just under the edge of the orbit, then, holding it firmly, seize the lashes of that lid by the fingers of the disengaged hand, and gently turn the lid upward and backward over the needle, or substitute used. Movement of the eyeball by the sufferer, in a strong light, usually reveals the presence of the intruding body, so that by means of a corner of a silk or cambric handkerchief, it can be detached and removed. Should the foreign body be *imbedded* in the mucous membrane covering the eyeball or the eyelid (conjunctiva), a steady hand and a sharp pointed instrument will usually lift it out. A soothing application to the injury is as useful as the same thing applied to a wound of the hand. Take a spoon, heat it, and pour in a few drops of laudanum. It will soon become dense and jelly-like. A few drops of water added will dissolve this gummy material, and the liquid thus formed may be applied by the finger to the "inside of the eye," as they say. The laudanum is opium dissolved in alcohol. The alcohol is somewhat irritating, but is easily evaporated by the gentle heat, leaving an extract of opium, which is dissolved in the water afterward added.

When a fragment of lime gets in the eye, do not waste time by trying to *pick* it out, but neutralize the alkali by a few drops of vinegar (which is dilute acetic acid) in a little water. Even when this is done rapidly, the ulceration caused by the alkali will be some days in disappearing. In all cases where lime has entered the eye, even when these things have been used, no time should be lost in going to a surgeon.

The discovery of cocaine as a local anesthetic and anodyne, renders all operation on the eye completely painless and thus comparatively easy. A few drops of a 4% solution of this invaluable drug dropped into the eye whenever a foreign body lodges in it, will always remove the pain and sensibility immediately and the organ is not injured thereby, but can be explored, and the foreign substance very readily removed. Cocaine thus applied is a panacea in all painful conditions of the eye. After the foreign body has been removed, the inflammation

or congestion which remains can readily be reduced by the following collyrium (eye water) :

Take Boracic Acid, 10 grains,
White Vitriol, 1 grain,
Camphor Water,
Rose water, of each $\frac{1}{2}$ an ounce.

Mix and apply by drops *into* the eye when necessary. This eyewater is also excellent in all forms of inflamed eyes.

The curious disposition of children to insert foreign bodies, such as grains of coffee, corn, pebbles, peas, buttons, etc., up the nostrils, and into the ear, is too well known to need more than a passing notice. But the sooner these substances are removed, the easier it is to do so, and likewise the better.

If the body is soft it absorbs moisture from adjacent parts, and becomes swollen and more difficult to remove. If the foreign body is hard, the irritation and inflammation which it will surely set up in the contiguous parts will in a short time materially increase the difficulties of removal.

If the body is up the nostrils, the child should be made to take a full inspiration, that is a full breath. Then closing the other nostril with the finger, and the mouth with the hand, the air of the lungs, in escaping through the nostril closed to a degree by the foreign body, assisted by a sharp blow from the palm of the hand to the back, will very often expel the substance.

But if it will not escape in this way, and if it is seen near the opening of the nostril, mothers should not make the mistake which is so often made in these cases, of making compression by the fingers, just above the object, as that will likely press it further up.

Should the first measure not remove the foreign body, it may very readily be extracted by the surgeon with a pair of polypus forceps, a bent probe or an earscoop, and the child had better be taken to a skillful doctor. Parents could frequently do this extraction did they not lack the proper appliances.

Insects, like flies, gnats, bed-bugs, etc., sometimes get into the ear. The best way of getting them out is to hold the head of the child or person with the disabled ear upwards, and fill the

cavity with sweetoil or glycerine. Lukewarm water will likewise answer if the other means are not at hand. It drowns the animal, by closing up its breathing pores, and in a short time it floats to the surface of the fluid used.

Foreign bodies in the ear are more troublesome to deal with. No effort to remove them with a probe, or anything of the kind, should be made by anyone except a professional man, for fear of permanent injury to the ear. The head of the child, face downward, should be held firmly between the knees, and with a Davidson or bulb syringe a stream of tepid water should be injected into the ear. The nozzle of the syringe should not be introduced into the cavity, as its presence may push it further into the ear or prevent the dropping out of the foreign body after the water has been forced past and beyond it. Should these means not succeed, by all means consult a surgeon without delay.

The tube of the ear is somewhat curved, and when straightened somewhat by catching hold of the upper lip, and gently pulling it upwards towards the crown of the head, the liquid flows in more readily.

SUNSTROKE OR HEAT APOPLEXY.—ITS CAUSE, PREVENTION AND TREATMENT.

Sunstroke is a condition in which the system is overwhelmed by excessive heat, either solar, or artificial. It is known to the medical fraternity under various names, such as thermic (heat) fever, heat apoplexy and heat prostration.

Two distinct bodily conditions, accompanied with disorder of consciousness, arise during exposure to heat. They are of two forms, first, the hyperpyrexial form, a condition in which there is coma with full and slow, or rapid and jerking pulse, hot and flushed or dusky skin, and very high temperature (105° to 110° Fahr.), and second the asphyxial form, where there also is coma with feeble pulse, cold skin and lowered temperature.

Far back in the earliest historical times there is mention made of sunstroke, and ancient medical writers have fully described it. And the affection was not unknown in biblical days, as the following passages clearly show: In II Kings, chapter 22, verses

18, 19, 20, appears the following: "And when the child was grown, it fell on a day that he went out with his father to the reapers. And he said unto his father, 'My head, my head.' And when he had taken him and brought him to his mother, he sat on her knees till noon, and then died." This instance relates to the son of the Shunammite woman, who was restored to life by the prophet Elisha.

In the eighth chapter of Judith, verses 2 and 3, we find also an instance in which death resulted from what is known to us as sunstroke. It is as follows: "And Manasses was her husband, of her tribe and kindred, who died in the barley harvest. For as he stood overseeing them that bound sheaves in the field, the heat came upon his head, and he fell on his bed, and died in the city of Bethulia; and they buried him with his fathers."

As has been said the immediate cause of sunstroke or heat fever is always exposure to heat, natural or artificial, but it must not be inferred that it is confined to tropical regions. Sunstroke is very rare in dry, hot climates and frequent in tropical lowlands, as well as in large steam laundries, sugar refineries, and other places where men work in damp, hot air.

The reason for this is that owing to the interference with evaporation, and the consequent cooling of the body, heat in a moist atmosphere is much more dangerous than is dry heat. Exposure to the direct rays of the sun is not necessary and many of the worst epidemics have occurred during tropical nights. New York and other northern cities suffer from its yearly visitations. At certain seasons the number of cases, in proportion to the population, far exceeds that of the more tropical towns. In New York, especially, the mortality has been very great. During the summers of 1866 and 1868 an immense number of cases were recorded. Visitors to the tropics from the colder regions, who are unaccustomed to a high temperature, are particularly susceptible; while the natives, who live constantly exposed to the heat, are comparatively safe. The sufferers in most cases are exposed to the heat for some days preceding the attack, consequently sunstrokes usually appear the third or fourth day from the commencement of the heated term.

It has been noticed that the majority of sunstroke cases (generally laboring men), occur in the morning or early in the day. Excessive bodily fatigue and intemperance or anything tending to lower the vitality of the system predisposes to the affection. It is on this account that persons of intemperate habits and debilitated systems are most liable to the attack. The fact that males are much more frequently affected than females depends simply upon the habitually greater exposure of men to heat.

In typical cases of sunstroke the symptoms may be divided into premonitory and immediate. The premonitory symptoms are not always evident. The person complains of headache and a burning sensation about the head, and during the night is restless and wakeful. The skin is dry and uncomfortably hot, and there is frequent desire to empty the bladder. The face is flushed, and eyes congested; the bowels are usually constipated.

A person presenting these symptoms, who, nevertheless, continues to work under the hot sun, or in an overheated building will be suddenly seized with vertigo, intense headache, and dimness of vision. His limbs refuse to support him, and he soon falls to the ground. Insensibility sets in, the breathing becomes loud and snoring, the pupils contract, and the skin is intensely hot. The coma may be partial or complete, and occasionally there are convulsions. The bowels are somewhat relaxed, and vomiting is not infrequent. In those varieties of sunstroke characterized by exhaustion the patients are more apt to die suddenly without special premonitory troubles. Death indeed may be almost instantaneous, the victim falling as if struck upon the head by a blow.

The reason why consciousness is lost from exposure to extreme heat is not fully understood. Some writers advance the theory that overheating of the blood calls for excessive action in the nerve centres, which rapidly exhausts their force and power. Others assert that the heated blood produces great depression of the nervous system, thus preventing it from performing its functions. The latter theory seems the most plausible.

The recovery from sunstroke is often more to be dreaded than death itself because sunstroke gives rise to a varied sequelæ,

such as amaurosis (blindness from organic changes in the brain), obstinate and distressing headache, impairment of the intellect, and indeed insanity is no uncommon sequence.

Now as to the treatment of sunstroke. It was considered imperative, at one time, to abstract blood in all cases of sunstroke, but modern enlightenment has driven out this therapeutical agent.

The person attacked should at once be carried to a cool, airy spot, in the shadow of a wall, or to a large cool room, in a house with a bare floor. He should then be placed in a recumbent position, the clothes stripped off, and a stream of water (from a height of about four or five feet above the patient) be poured over the body, so that the patient may receive the benefit of the shock. The stream of water should at first be directed on the head, then on the chest and abdomen, and finally on the extremities, and thus alternating from one part to another, until consciousness returns.

Ice rubbed over the body is recommended by some, but the cold douche is preferable. Internal medication is useful in all cases. Among the numerous drugs employed, bromide of potassium has been found most efficient. If the person is unable to swallow, it can be given by injection into the rectum, always remembering to increase the dose by one-quarter more than when given by mouth. In mild cases from 5 to 10 grains may be given, at intervals of from half an hour to one hour, until the grave symptoms disappear. In severe forms from 10 to 30 grains may be administered every half hour; when the pulse becomes weak or intermittent, stimulants are needed.

Stimulants should be resorted to in all cases where exhaustion is the prominent feature. Brandy and milk, or brandy with ammonia must be introduced into the stomach or rectum. It is well to remember that in the cases where the skin is cold, the cold douche will do no good whatever. After consciousness has returned, mustard plasters or blisters are to be applied to the back of the neck or behind the ears. The bromide need not be discontinued for one or two weeks.

Upon recovery the brain must rest from all work; exercise in the open air is essential. Freedom from excitement and regular habits must be rigidly enforced. A continuance of this treatment

for several months lessens, if it does not entirely prevent, the danger from nervous affections which follow sunstroke. It is said that persons who have once suffered from sunstroke, for a long time after are unable to bear exposure to the heat without a recurrence of the symptoms of the malady.

But it must always be remembered that sunstroke, or heatstroke, is a very dangerous thing, and may be followed by grave and permanent impairment of the intellect.

HEAT EXHAUSTION.

This is a condition of great depression of the system due to the action of heat, and, occurring in hot weather, it might be confounded with sunstroke or heatstroke. But in heat exhaustion, instead of a hot, dry skin, there is a cold, moist one. This calls for rest, fresh air, a cool apartment, but no application of cold to the surface. Small doses of brandy, thoroughly diluted, may be given, and the system gradually brought back from its depression.

THE PREVENTION OF SUNSTROKE, HEATSTROKE OR HEAT-EXHAUSTION.

During the heated term, as it is called, *all* use whatever of malted, fermented, or distilled drinks should be abstained from. Not only do they *favor*, in a general way, a condition of the system in many respects similar to that which leads to sunstroke, but they deaden sensibility at the very time it ought to be on the alert; and the person is less able to detect slight changes in his feelings, which otherwise might have served as useful warnings in his behalf. The use of such substances, under the circumstances, seems as unwise as it would be for a person, in a time of great danger, to prepare for watchfulness by taking a dose of laudanum; or for a worker with his hands among hot metal to apply something to them by which sensibility would be deadened or destroyed. By night, perhaps, he would have no fingers left.

If there is a time above all others, the year around, when every precaution for the preservation of health is required, it is during the hot months of summer.

Every night a bath should be taken and the drinking of large quantities of *cold water*, merely because it *is* cold, should be avoided immediately before, during, and after meals.

CHAPTER V.

ACCIDENTS AND EMERGENCIES.—CONCLUDED.

Frost-Bite—The Fingers, Toes, Nose, Ears and Lips, the Parts Most Frequently Attacked—Treatment. "Frozen to Death"—Its Meaning. Chilblains—Description and Treatment. Accidents from Lightning—Shock and Burns from It—Treatment. Spitting of Blood. Poison Vine Eruption—Treatment. Whitlow or Felon—Appearance and Treatment. Boils and Carbuncles. Earache—Treatment. Headache—Varieties—Nervous and Congestive, etc. Toothache and the Way to Prevent It. Faceache—Treatment.

FROST-BITE.

Exposure to cold, of severe degree, often leaves the fingers toes, nose, ears and lips, more or less frozen. This condition short of absolute death of the part, is termed frost-bite. It will be observed that the portions of the body just enumerated are those most exposed, in area, to the influence of the cold, and are furthest situated from the heart; and it will perhaps be unnecessary to remark that persons who are debilitated are more apt to suffer with the same amount of exposure than the *robust*.

When the circulation of any part begins to succumb to the influence of the cold, it becomes puffy, blueish, and smarting. This is because the blood flows more slowly than natural through the vessels exposed near the surface. Soon this blueness disappears, and the part becomes pallid, as if the influence of the cold had contracted the vessels to an extent incompatible with the passage of blood through them. The pain at this point ceases; indeed until he meets a friend, he often does not know of his mishap. At this stage, the injury has become so great that, unless proper means are taken to restore circulation, complete

death of the part ensues, and in due time sloughs away, and is detached from the line of living tissue.

What takes place in a part of the body, known as frost-bite may take place in the *whole* of it. This latter condition is called "frozen to death." The blood of the extremities being gradually forced from them, under the continued subjection to the cold, is forced inward upon the larger blood-vessels, heart, lungs, and brain. There is increasing difficulty in breathing, owing to the engorged state of the chest, and what would always be remembered by one so exposed to cold, an *unconquerable desire to sleep*. To sleep *then* is to *die*. If the person exhibits such a symptom, he must, by all means, be kept constantly moving.

TREATMENT.

Always remember, that the frozen person is to be kept away from the heat. A person taken up insensible, or approaching it, from exposure to the cold, should be taken into a *cold* room, his clothing removed, and thoroughly rubbed with snow, or cloths wrung out with ice-water. The friction to every part of the body, particularly of the extremities, must be continued for some time, until signs of returning animation appear. When the frozen limbs show signs of life, the person should be carefully dried; put in a cold bed in a cold room; artificial respiration used until the natural breathing is established; then brandy given, also ginger-tea and beef-tea. Usually by this time medical advice will have been secured to direct further treatment. Should it not, do not forget that the patient is to be brought by degrees into rather warmer air; and lest in some *part* there might still be defective circulation, the person should be kept away from exposure to the heat of the fire.

CHILBLAINS.

Chilblains, as the name implies, is when the circulation of the part has become chilled—*disturbed*, not destroyed. It is generally attended with much itching and smarting, and is usually found in the toes, outside edge of the feet, just where the toe emerges, or in the heel. Sometimes, in persons of debilitated

state of health, the hands suffer. These symptoms are particularly annoying just after lying down in bed, owing to the exposure to the heated air formed and retained between the bed clothing by the body. The treatment is to keep the part away from the fire, and every night, before retiring, to bathe the feet in cold water, or rub them with *snow*. They should then be well dried with a soft towel. After this, the application of the ordinary compound rosin ointment of the apothecaries is often of use in stimulating the circulation through the part. The efficiency of this ointment for this special purpose can be increased by asking the apothecary to add to an ounce of it a couple of drachms of the oil of turpentine. It may be remarked, that persons who suffer in winter from cold feet are often benefited to a surprising degree by bathing them at night, before retiring, in cold water. Such persons should always keep their feet away from the fire.

ACCIDENTS FROM LIGHTNING.

It seems to be a fact widely known and indeed generally accepted, that when the human body or organism is so placed that it receives the direct stroke of lightning, instant death ensues ; and this may be laid down as the rule, but it is a rule not without exceptions. Cases are on record where a person struck exhibited no sign of life for an hour, and then recovered. Temporary paralysis of a portion of the body may remain for a while, as well as disturbance of some special function, as the sight, smell, taste or hearing. But under these conditions persons may be said to have been "struck by lightning," when in fact they have received only a nervous or induced electrical shock, which may be more or less severe, but is rarely fatal—the electrical current, in such cases, evidently, in its disruptive charge strikes objects in the immediate neighborhood of these individuals and they, on this account, become stunned.

The majority of deaths from "lightning stroke" (which throughout the world is annually very great) occur in the level, open country, especially where there is a deficiency of trees. This accounts for the fact that in certain portions of our western country lightning has been so very destructive to life.

The general introduction of electricity as a motive power, and its frequent use for illuminating and other purposes, makes very common a class of injuries hitherto comparatively unknown, and it is indeed timely that the public in general, become better acquainted with the source and nature of such accidents—which in form, as also in severity, frequently are identical with aerial electricity itself. The local effects of lightning to the tissues may result in superficial or deep burns. The bones may be fractured—the fractures may be compound, (the bones protruding), or even comminuted, (broken in small pieces), limbs or portions of extremities are occasionally torn entirely off. When death takes place, it is from shock, cerebral effusion, or from other injuries, which from their gravity, lead on to a fatal termination.

When the person exhibits little or no sign of life, the clothing should be rapidly and immediately removed; the body exposed to a dashing of cold water; then dried, placed in bed and artificial respiration kept up until the parts of the brain and nervous system in charge of this function shall have recovered enough to attend to it. Apply warmth to the "pit of the stomach" and extremities by means of bottles filled with hot water, etc. As said before, recoveries after an hour of supposed death are on record and efforts of revival should not be too soon abandoned. Some stimulant as the aromatic spirit of ammonia is proper, as also brandy, either by mouth or hypodermatically administered. The burns of lightning or electricity are to be treated as ordinary burns, and the healing process is in no wise different from that in burns from other sources.

Medical literature is profuse with curious cases illustrating the peculiar freaks of lightning. The following very interesting and remarkable case is from Ashhurst's Surgery. "A laborer was standing under a willow tree when it was struck. The tree was partially stripped of its bark, and the man was literally taken out of his boots; the latter, although greatly torn and twisted, were left at the foot of the tree, while the man was thrown some six feet away. Although he had been well clothed before the accident, he was, when found, quite naked; his clothing was torn completely into shreds; his watch and chain, from the effects of

heat, were almost destroyed, his limbs presented serious burns and lacerated wounds; one leg had sustained a compound comminuted fracture, and there was also a compound fracture of the os calcis on the opposite side. The man was however, conscious, and finally recovered. (From the fact that the man's clothes were thoroughly soaked by the rain, they probably conducted the lightning, and thus averted a fatal result.)

SPITTING OF BLOOD.

This often proceeds from the back of the throat, having trickled down and been brought up by the movement of coughing. If the blood comes from the lungs it is usually of a bright red color and is somewhat frothy in appearance. It is suggestive of trouble there, but not always so in young people, especially in young women. The amount of blood lost is rarely in itself fatal. As salt is always given in such cases, it has acquired a good deal of popular confidence for arresting the loss of blood. Fragments of ice can be given with it.

TO CHECK VOMITING.

If due to mere *irritability* of the stomach or nervous system, the aromatic spirits of ammonia, in twenty drop doses in ice water, every few minutes, iced mineral water, iced champagne, thirty drop doses of brandy, every few minutes, a mustard plaster, cayenne pepper plaster, broken ice in a bladder to the stomach, or opposite, over the spine, are all useful. The last often succeeds where other things fail. A common tumbler with fragments of paper dipped in alcohol or cologne, and ignited, to act as a "cup," used to the pit of the stomach, is likewise useful. Sometimes the vomiting is a proper effort to get something out of the stomach that ought not to be there. If this is known to be the case, assist it with a solution of salt and water, or pulverized ipecacuanha.

POISON VINE ERUPTION.

Several varieties of the rhus, popularly known as the swamp sumach or poison sumach, poison vine and poison oak, when

brought in contact with the skin of many persons, produce itching, redness, a sense of burning, tumefaction, and even *vesication*. Sometimes the swelling is so great as to disguise the features. Persons coming within the influence of even the emanations from different species of the rhus experience the same symptoms. The poisonous effects are usually observed shortly after exposure, and begin to decline within a week.

Weak alkaline solution—say a tea spoonful of common baking soda to a quart of water, or even lime water, kept to the part by dipping pieces of linen in them, are useful in allaying the inflammation. Laudanum added relieves the pain. Weakened down lead water is also recommended. Cream from milk is perhaps as useful as anything else and is a good vehicle for the sugar of lead.

WHITLOW OR "FELON."

This appears as a small painful spot, rapidly increasing in size. It is an inflammation between the bone and the nourishing membrane surrounding it. A drop of pus forms, and gradually increasing, separates this membrane from its attachment, until the whole or a part of the bone dies (necrosis). After opening freely, the little mass of dead tissue ("core"), acting practically like a thorn or other foreign body, will come away as soon as completely detached; and the wound slowly fills up. "Felon" is apt to occur in the spring and toward the end of summer, when people are debilitated, and unless this condition is corrected, a person, who has had one, may have another. Sometimes, it seems almost an epidemic.

POULTICING.

The best form of poulticing the finger is to keep a small cup constantly filled from a supply of hot mush, and hold the finger in it with the heat as great as can be borne. The contents of the cup, if often renewed, will do the finger more good in twelve hours than a day's poulticing in the usual way. At night, if the pain is very great, a teaspoonful of laudanum may be applied to the finger.

BOILS AND CARBUNCLES.

These occur most frequently in persons with a certain form of impoverished blood, for which attention is often necessary. This does not mean a dose of "salts" as a "physic." The little boils threatening the face and neck, if taken in time, can often be discouraged by frequently touching the pimple with turpentine or with hartshorn liniment. If they proceed to the step further, the death of the little fragment of tissue, afterward discharged when detached as a "core;" poulticing to favor this, must be resorted to. Laudanum added often mitigates the severe pain.

A *carbuncle* is a much larger boil, and there is so much exhaustion from the discharges, loss of sleep from pain, etc., that the patient sometimes succumbs during the effort of nature to afford relief and demands good and proper constitutional treatment. It is hardly necessary to say that a physician should be called in service.

EARACHE.

Earache should always suggest an examination of the teeth, and if one be found decayed, it must be extracted or at least cleaned out and packed with cotton and oil of cloves. For, many earaches depend upon diseased teeth. Steaming the ear will often give relief in earache. Place the larger end or base of a cone of paper over the spout of the teakettle having the boiling water, and the apex of the cone as near the ear as possible, not to burn the patient, the patient lying with the affected ear downward with it sufficiently free to allow the steam to enter the canal. To be used from three to five minutes at a sitting, and as frequent as necessary.

A folded cloth wrung out of hot water, with a teaspoonful of laudanum poured over it, or a big, hot poultice—for which hops is the best material—should be applied to the side of the head and kept as hot as possible. Hot drinks should be given also, and enough laudanum to cause relief from pain. The occurrence of an earache should always lead to consulting a doctor, for it is often of importance as a sign of disease which may seriously affect the hearing. The writer has had great

success in relieving earache with cocaine in solution dropped into the ear, as well as with sulphate of atropia mixed with oil of sweet almonds poured into it.

HEADACHE.

By headache is meant any pain in the head independent of location or cause. It is always symptomatic of some local or constitutional disorder. It is comparatively an easy matter to relieve a headache temporarily, but this is not accomplishing permanent results.

The causes are various, astigmatism, myopia, presbyopia, improper light and print, eye-strain and weakness of the eye muscles cause most of the cases met with in those who do much close work with their eyes. Excitement, worry, grief or prolonged mental activity will cause it, as will also, by reflex action, uterine diseases, indigestion, improper food, constipation and pathological secretion of bile. Uremia, syphilis, cancer, and the menstrual period are frequent causes, in fact, it is the ever present symptom in almost all diseases.

VARIETIES.

Hemicrania or *migraine*, is an affection located on one side of the head only. Vomiting, throbbing pain in the temple and forehead, and occasionally rise in temperature are present. It is paroxysmal in character, each attack lasting one or more hours.

Nervous headache is most common in enæmic women ; short in duration and very severe. No increase in temperature, but great nervousness and after-prostration.

Congestive headache causes throbbing pain through the temples ; congestion of the veins of the face and retina, soreness of the eyes, and giddiness.

Headache from eye-strain is usually in the frontal region and is accompanied by eye symptoms, such as pain, photophobia, smarting of eyes and imperfect vision.

TOOTHACHE.

Toothache, depending upon a cavity in a decayed tooth, is usually very easy to stop. To do this a fine crochet needle should have a very small bit of clean cotton twisted round its point, and with this the hole in the tooth should be thoroughly swabbed out. Then the point of the crochet needle should be cleaned and another little ball of cotton, like a very small shot, be dipped in oil of cloves and caught up with the end of the needle. This rarely fails to cure such a toothache. On the subject of the teeth it is well to give a few plain directions on the way in which to keep the teeth in good order, also on the all-important subject of tooth powders.

CARE OF THE TEETH.

The necessity of keeping the teeth clean, with a view to the prevention of future trouble, is overlooked by too many, even in the higher classes, sometimes from carelessness, sometimes from ignorance. Now, cannot the medical attendant do a great deal to combat this state of things? The dental surgeon is often asked, "How soon should the first tooth-brush be used?" "As soon as there are teeth to use it upon," should be the reply. An ideal tooth powder should be alkaline, since acids dissolve the tooth substance; finely pulverized, that it may not mechanically abrade; antiseptic, to prevent decomposition of food lodged between the teeth, and perhaps to destroy the microbes which are always choking the tubules of carious dentine; it should contain nothing irritating to the gums; and, lastly, it should be pleasant to the taste, or it will not be used. Fluid dentifrices do not, as a rule, clean the teeth effectually unless they contain some ingredient which acts upon the enamel itself; and those preparations which are eulogized as making the teeth white or preventing the deposit of tartar, should be avoided. Charcoal was at one time a very popular form of dentifrice, and is even now largely used, but from the amount of silica it contains it will rapidly wear away teeth that are not of exceptional hardness; and, moreover, the gums in some instances become tattooed in a curious manner from the absorption of minute particles. Pumice powder, again, is too

gritty ; and camphorated chalk is said to make the gums spongy. Precipitated chalk forms the best basis for a tooth powder, to the base of which may be added pulv. saponis and ol. eucalypt., a drachm of each ; and, if there is no objection to the taste, half a drachm of carbolic acid.

FACEACHE.

Usually is neuralgic, and heat applied is always grateful. A small hop pillow heated and held to the face is useful ; or the face may be bathed with laudanum, tincture of ammonia ; or any such substance. Mustard plasters should not be used as they leave a conspicuous mark, and often blister. Ordinary cayenne pepper, mixed into a stiff paste, with an equal bulk of Indian meal and honey, is quite as active, as useful, and does not blister the skin.

CHAPTER VI.

POISONS AND THEIR ANTIDOTES.

What Constitutes a Poison? Mode of Action of the Different Poisons—Acid, Alkaline, Mineral and Vegetable Poisons—Corrosive and Non-Corrosive Poisons. General Instructions, Emetics with Chemical and Physiological Antidotes—The Sheet Anchors. Acetic, Citric, Muriatic, Nitric, Oxalic, Sulphuric, Tartaric, Carbolic and Hydrocyanic (Prussic) Acids. Caustic Soda, Caustic Potash (Common Lye), Lime and Lunar Caustic. Tincture of Iodine. Alcohol. Arsenic. "Rough on Rats." Lead. Mercury. Antimony. Ammonia or Hartshorn. Nitrate of Potassa (Saltpetre). Copper. Phosphorus and Sulphate of Zinc.

POISONS AND THEIR ANTIDOTES.

A poison is any agent introduced into the system, capable of destroying life, or of producing a morbid, noxious or dangerous effect. There is not a single poison in the entire list, which, in proper quantities, and under favorable circumstances, may not be used with advantage to the human body ; and, on the other hand, there is scarcely a single thing in ordinary use, which if indulged in beyond the requirements of the body, or its ability to properly dispose of it, may not be followed by symptoms of derangement of the economy ; and, in the above qualified sense, is not miscalled, if termed a poison.

Immediately upon the discovery or suspicion of poisoning some one should be dispatched for a doctor, if possible, carrying information as to the poison taken, so that valuable time may be saved.

Meanwhile there is much that can be done. In the majority of cases, the poison is introduced into the stomach. As soon as swallowed, a portion of the agent may commence destructive action upon the mouth, throat, or stomach, through the mucous membrane, without injuring it, into the blood, and are carried by it to the brain and other portions of the nervous system, where the really injurious action begins, by overpowering them ; so that

the breathing and action of the heart are not kept up. To this class of poisons belong alcohol, aconite, belladonna, stramonium, opium, strychnia, etc. A slight knowledge of the mode of action of a substance will, therefore, of itself suggest an antidote or remedy. If an alkali has been taken, an acid will neutralize it, converting it into a compound less hurtful or inactive. The new compound is, perhaps, injurious, but not so active, and can be removed from the stomach at leisure. On the other hand, if an acid has been taken, an alkali would naturally suggest itself as an antidote.

Some substances can not be neutralized by any convenient article, the poison is then to be *removed* from its lodging place as soon as possible, and its effects counteracted. It should be remembered that the substance swallowed as a poison must be considered as three parts : 1. The portion of that taken which has *already* had an opportunity of acting upon the *mucous membrane* (lining) of the throat and stomach, if the poison acts in that way ; 2. The portion which has already passed from the stomach to the *blood*, if the poison acts in the other way ; 3. The portion of the poison in the stomach yet to be disposed of. It is the latter portion, perhaps, in most instances, we are called upon to first deal with ; and the means employed is, to evacuate the stomach with the least possible loss of time. This is done by means of the stomach pump or by an emetic.

A handful of salt and a tumbler of water can always be had ; and anybody can mix a heaping teaspoonful of ground mustard with a cup of water, and get a person to swallow it. Either, swallowed, will empty the stomach. A stomach pump is not always at hand, indeed, very rarely can it be obtained, and it is a fact, that not a single non-professional person of the writer's acquaintance, could use a stomach pump with success even if he had a dozen of them at his command.

In cases where an *unknown poison*, or supposed poison is taken. Treat as follows :

If the patient should vomit, this should be encouraged ; if not, it must be provoked. The simplest way to do this is to give large draughts of lukewarm water, and thrust a finger down the

throat. What has been said with regard to salt and water, mustard and water to produce vomiting holds good here. It is to be remembered that there is no occasion for fastidiousness. Any water will do, water in which hands, or dishes, for that matter, have been washed, may, by its very repulsiveness, act more quickly than anything else ; and if soap has been used, it will be all the better for that, as soap is an antidote for acid poisons. The quantity used must be large, the sufferer must be urged to drink and drink, a pint at a time, until he can contain no more, and has been made to vomit over and over again.

After copious vomiting, soothing liquids should be given—oil, milk, beaten up raw eggs—all in moderately large quantities. These are especially valuable when the poison has been of an irritating character.

If the sufferer be much depressed in body or mind the hands and feet cold, the lips blue, the face pale, a cold perspiration upon the forehead and about the mouth, then some stimulant should be administered. Strong, hot tea, without milk, is the best, because it is a chemical antidote to many poisons. Strong coffee is next in value. To either of these can be added brandy, whiskey, wine, or alcohol, in tablespoonful doses for an adult, and half as much for a child ; or the spirits may be mixed with a little hot water. Warm coverings are not to be forgotten ; and if the depression be great, hot water cans or hot bricks, wrapped in one or two thicknesses of blanket, should be laid by the side of the chest, or a hugh poultice placed round the body or a blanket, wrung out of hot water and covered with a dry one. The author has taken upon himself, to describe the history, medical uses and properties of some of the chief poisons, feeling satisfied that the same will prove unusually interesting and instructive to all.

The common acids, acetic, citric, muriatic, nitric (aqua fortis), oxalic, sulphuric (oil of vitriol), and tartaric, are all *highly corrosive* in their action, unless largely diluted, and act with even greater rapidity when taken internally than when applied externally. They are about as troublesome in this respect as concentrated alkalis, like lime, soda, potash, etc. When taken the acid should be neutralized, as far as possible, by giving some

harmless alkali. Limewater is usually about as convenient as anything else for the purpose. Common soap, from the alkali it contains, might be given. For nitric and oxalic acids, the carbonate of magnesia or lime is given; for sulphuric acid, strong soap suds; for oxalic acid, give lime water. Bicarbonate of soda (the ordinary baking powder) and chalk are always excellent antidotes in poisoning from acids.

OXALIC ACID.

This substance is largely used in the arts, and in private households, for removing stains of iron from texture and surfaces, which it does by combining with an otherwise insoluble salt of iron, easily removable by water. From the strong resemblance oxalic acid bears to epsom salts, it has often been taken instead of the wellknown purgative of that name. To avoid the possibility of such an accident, oxalic acid should be kept in another part of the house from where medicines are kept, and no precaution omitted, by label, and other marking of the parcel, to make the difference between them as decided as possible. It is well to remember, also, that, wholly unlike epsom salts, the taste of oxalic acid, applied to the tip of the tongue, is quite *sour*. When swallowed the activity of this poison admits of no delay. It belongs to the class of irritant poisons spoken of so often, and produces death, it is said, by destructive action on the mucous membrane (lining) of the throat, stomach, and bowels. Time can scarcely be lost to give an emetic, but something must be given to rapidly combine with it, and divert its activity from the parts mentioned. It has a strong affinity for lime, forming with it a comparatively insoluble oxalate of lime; and for magnesia, forming with it an insoluble oxalate of magnesia, which can be dislodged with less haste. A teaspoonful of lime from a whitewash bucket or at the bottom of the bottle of lime water, mixed with a cup of water, might be given every few minutes, or some magnesia, may be given. All these things can easily be had, and not a moment need be lost in getting the person to swallow them. The common "whiting," used for polishing glass, making cheap paint and putty, is essentially the same as prepared chalk. Scraping

the ceiling or wall will not get an antidote if plaster of paris has been used instead of common lime, as is often the case. The often recommended mantel images of plaster of paris are likewise of little use. Lime in the sulphate (plaster of paris) is too firmly united to the sulphuric acid to give it up for oxalic. After oxalic acid is supposed to be neutralized, an emetic of ground mustard or pulverized ipecacuanha may be given.

CARBOLIC ACID.

Carbolic acid, (or carbolsäure in German), is a product, derived from coal tar oil, by the process of distillation. It was first discovered in 1860. It resembles creosote in color and taste, but differs from the same, in-as-much as it is derived from coal tar, creosote being a product of wood tar, but likewise obtained by the same process, that is, distillation. The best and purest creosote is derived from beechwood and was discovered prior to carbolic acid and is much more expensive. Carbolic acid as kept in our drug stores occurs in solid mass or hard crystals. It has an acrid, burning, sweetish taste, (this latter taste, perhaps, accounts for the fact that children so frequently drink it and are thus poisoned by it), and if pure, is of a perfectly white color, but, if even slightly impure, it has a reddish color, or will acquire it upon exposure, and readily assumes a liquid state on the addition of some glycerine, and is in this way liquefied by druggists before selling it to the laity. It is a remedy of very great value in medicine, and is administered internally in very small doses, in a great many complaints, but it is not the writer's intention to dwell upon those merits in this connection. Being one of the best disinfectant agents known, its great usefulness for these purposes, now quite well understood by the public in general, and is now so frequently kept as a domestic remedy, and so often taken by mistake and great sickness occasioned, or death produced through it, that it is timely that more should be understood of this poison and the methods known how to treat accidental poisoning when the same is thus taken.

Directions for poisoning by this agent: Never administer any oils or fat, as they dissolve the acid and thus assist in its absorption

into the blood, which the object should be, by all means to prevent. Chalk, lime water or magnesia should be given immediately; plaster off the wall in emergency, also baking powder, solution of carbonate of soda, emolient drinks. Promote vomiting, secure rest, and stimulate if necessary. If large doses are taken the sensibility of the stomach becomes destroyed and emetics generally fail to act, and on the whole, the alkalies or antacids, like chalk, lime, baking soda and magnesia become the chief antidotes. These should be immediately administered. Chalk and lime water are valuable antidotes in many poisons, and should be kept in all families.

LUNAR CAUSTIC.

The nitrate of silver, or lunar caustic is sometimes swallowed. The antidote of this is a very strong brine of salt and water, given again and again; and vomiting should be provoked, until the vomited matters cease to have a look like thin milk.

IODINE.

Iodine, in the form of a tincture, is also sometimes swallowed by mistake. The antidote for this is starch and water.

INTOXICATION AND ALCOHOLIC POISONING.

Alcohol itself, or in the form of brandy, gin, rum, or whiskey, is sometimes taken in such large quantities as to be poisonous. When this is the case there are evidences of deep stupor or depression, sometimes closely resembling apoplexy, and should be treated in the same way until its identity can be safely established. For this the odor of the breath is a useful guide, though it may be due to a stimulant, given by a bystander after an accident, or taken just before one. In addition, it may be remembered that, in a case of deep drunkenness there is no paralysis, though there is helplessness equally on both sides; that the person can be aroused from the stupor, and that generally if the eyeball be touched he will attempt to close the eyelids. In such a case an emetic should be given, and, if any hartshorn or aromatic spirits of ammonia is at hand, a teaspoonful of this in a teacupful of

water. A large draught of vinegar will often go a great way toward sobering an intoxicated person. If there is much evidence of prostration, with cold clammy skin, heat will have to be applied to the body, to prevent collapse.

Emetics are sometimes of value in cases of profound alcoholic stupor, but it must be borne in mind that, if a mistake be made as has been—and the trouble be an apoplexy, no more dangerous thing could be done than to give an emetic.

[NOTE.—It is said to be possible to restore one who is helplessly intoxicated, to the almost complete use of his faculties, in a very short time, by administering to him a half teaspoonful of ammonium chloride in a tumbler of water.]

ARSENIC.

Poisoning from arsenic is either from the substance itself, which comes as a white sweetish powder, often used to destroy domestic pests, such as rats and roaches; from paris green, which is the arsenite of copper, a paint, frequently used, and now so largely employed by farmers to destroy potato bugs and other insects, or by taking "Rough on Rats," which is also arsenic in another form. Many "fly poisons" contain it likewise. Arsenic acts as an irritant to the stomach and bowels, in many respects like antimony and its preparations. As soon as it becomes known that arsenic or any of its preparations has been swallowed in poisonous doses, the poison taken should be dislodged from the stomach, as far as possible, by vomiting (see "Emetics,") assisted by the finger to the throat, or the feather part of a quill. Free drinking of milk, plenty of white of egg and water, or flour and water, should be encouraged. Not only do these things encourage vomiting and tend to dilute the poisons, but they offer something upon which the poison can expend its energy, to that extent saving the living tissue, and at the same time they tend to envelop the particles of the poison until the mass can be removed from the stomach.

The antidote to arsenic is the freshly prepared *hydrated peroxide of iron*. This can be had of any apothecary in a few moments of time. It is quite harmless in character, and may be

given in almost any quantity. The iron, in this particular form combines with the arsenic, forming a temporarily harmless preparation. This newly formed compound should not be permitted to remain and be digested, but must be dislodged afterward by an emetic, which the bulk of the antidote favors.

[NOTE.—Another oxide of iron, closely allied to, and said to be a useful substitute for the hydrate peroxide, can be made by almost any one in a few moments, if some aqua ammonia, and some of the common muriated tincture of iron can be had. Both of these articles can be found in many houses, and if not there, in every apothecary-shop, or the office of every country practitioner.

Take a glass tumbler, or a graduated measure, pour in three or four tablespoonfuls (quantity not of much importance) of aqua ammonia, and then a tablespoonful or more of the muriated tincture of iron.

A thick, dark, reddish precipitate, like brick dust, is at once seen in the mixed liquids which may be increased in quantity by gently stirring with a broom-splint.

This precipitate is the oxide sought, and must be separated from the liquid by spreading a fine handkerchief or closely woven piece of muslin over a cup and pouring on the mixture. The liquid will run through, leaving the desired oxide of iron as a reddish-brown, jelly-like powder. To free it from an excess of either substance used in its formation, a half pint or so of tepid water should be poured on in a gentle stream to wash the precipitate. The washed precipitate is now ready for use.

A teaspoonful of this powder may be given every few minutes.]

Calcined magnesia and pulverized charcoal have also been recommended as antidotes in poisoning by arsenic.

LEAD.

The form which poisoning by this substance usually takes place is the acetate of lead (sugar of lead). The carbonate of lead, the "white lead" of the painters, and the red oxide ("red lead") are also sometimes swallowed in poisonous doses. They all act as *irritant poisons*. The treatment of such cases con-

sists in giving as an antidote, water acidulated to about the strength of lemonade, with sulphuric acid ("oil of vitriol"). The iodide of potash is also an excellent antidote in poisoning from lead. Sulphate of magnesia (epsom salts), or the sulphate of soda (Glauber's salt), in water, are also reputed antidotes.

When lead is taken for some time, in any of its soluble forms, in small doses, as when water has been kept in leaden vessels "glazed" with lead, or the use of wines "sweetened" with the same metal, a peculiar train of symptoms, often with paralysis and "wrist-drop" slowly follows, known as "lead poisoning," or "painters' colic." All such possible sources of the introduction of lead into the system should be carefully avoided; and as soon as the effects of the absorption begin to be suspected, no time should be lost in consulting a physician.

MERCURY.

The bichloride of mercury (corrosive sublimate), often used as a solution in the house for destroying vermin about beds, is one of the most active poisons, when taken internally. The red oxide of mercury (red precipitate) is another dangerous salt of the same metal. When swallowed, the white of eggs should at once be given, and often repeated. In the absence of this form of albumen, common milk can be used, or wheat flour beaten up with water. These salts of mercury not only irritate the stomach, but so rapidly inflame and destroy it that some writers discourage the use of emetics. If one can be given, however, before the poison has had time to produce these extreme results, there can be no objection to its use. The continued administration of the mentioned antidotes is soon followed, as a rule by free vomiting. There appears to be little excuse for keeping such poisons about the house as corrosive sublimate or red precipitate. They are merely poor substitutes for good housekeeping with some people.

ANTIMONY.

This metal is rarely accessible in its purity. One of its salts, as tartar emetic, or the wine of antimony, (which is tartar emetic dissolved in wine), is the usual source of the poison. Vomiting

is one of the most distressing and prominent symptoms of poisoning by this substance. Assisted with copious draughts of tepid water, sugar and water, flaxseed water, much of the poison in the stomach may be gotten out. Another symptom is great prostration. If a small quantity only is known to have been swallowed, a teaspoonful of paregoric in a little sweetened water may be divided into three portions, one of them being given every ten or fifteen minutes. It soothes the irritated and excited stomach.

The antidote usually recommended is nut-galls, or oak-bark in powder. Half a dozen of the former, finely powdered, may be given mixed with water. The active principle in each of these is called *tannin*, now to be had of every drugstore and dyehouse. Ten grains of it (a teaspoonful—it is very light) in water will be equivalent to the nut-galls mentioned. A strong infusion of common *green tea* contains enough tannin to make it useful as an antidote. An insoluble, and perhaps inert, tannate of antimony is formed.

AMMONIA.

The ordinary aqua ammonia, sometimes known as “hartshorn,” acts on the mucous membrane of the stomach, as would naturally be expected after knowing its effect upon the mucous membrane of the nostrils. When swallowed, it acts as a rapid corrosive poison. Owing to its pungency, it can scarcely be given by mistake in a state of purity. With olive oil, it forms the common “hartshorn liniments,” and has thus been given internally. A violently acting corrosive substance, like ammonia, leaves no time for emetics. It is an alkali, and the common dilute acid known as vinegar will neutralize it. Lemon juice also would answer the purpose.

Lime, also a concentrated alkali, if accidentally administered, acts like ammonia.

Potash, the caustic potash, in the form of common lye, when swallowed, acts as the above mentioned alkalies.

Nitrate of Potash (saltpeter), in large doses, say half an ounce or more, taken internally, is followed by poisonous

symptoms. There is pain, with heat in the stomach, vomiting and purging of blood, great prostration, and other symptoms, denoting the action of an *irritant poison*. No antidote is known. The treatment consists in rapidly evacuating the contents of the stomach by an *emetic*, and the free administration of *mucilaginous drinks*, with some paregoric every little while, to allay the pain and irritation of the inflamed parts.

Soda.—The same things are to be said about this alkali as about potash, ammonia and lime.

COPPER.

The most common form of poison from this cause is through careless use of utensils made from it. Most acids form soluble salts with copper; hence acids should never be used for cooking purposes in copper vessels. Many of the ordinary vegetables and fruits contain enough to form poisonous salts with this metal. Even sugar, from the ease with which solutions of it are changed into acids, should be cautiously used in contact with copper. When copper is mentioned, it must be understood to apply to *brass* and other alloys into which copper enters as a necessary component. Indeed, there is scarcely an excuse for the use of copper or brass as vessels any longer, owing to the superior advantages of similar vessels of iron lined with porcelain, popularly known as "enameled" or agate ware. The stomach must at once be emptied by an emetic, and copious draughts of milk, or the white of eggs mixed with water. Carbonate of soda (the ordinary baking soda of the kitchen may answer) is said to be an antidote. As much as will lie heaped upon an ordinary nickle cent can be given every five minutes, in water, or in the other named liquids. *Iron filings*, or the ferro-cyanide of potassium (Prussian blue), in teaspoonful doses every three minutes, may be given.

PHOSPHORUS.

This is not often taken in a state of purity, perhaps. It is the active ingredient of most of the popular "exterminators" for rats and other vermin. Children have been known to eat it with

fatal results. They have also eaten the ends of common matches with similar consequences. Phosphorus acts as an irritant poison, inflaming the mucous membrane with which it comes in contact. There is a chemical antidote, sulphate of copper. Some calcined magnesia may be given, in plenty of water, to be rapidly followed by an emetic, and then an abundance of mucilaginous drinks.

ZINC.

The sulphate of zinc (white vitriol) may be termed poisonous in very large doses, were it not for the fact, constantly turned to good use, that it at once causes vomiting, and is brought up before damage can be done. Hence it is regarded as one of our most valuable emetics.

CHAPTER VII.

POISONS AND THEIR ANTIDOTES.—CONCLUDED.

Vegetable Poisons. Narcotics. Stramonium. Opium and its Alkaloids. Belladonna Hyoscyamus or Henbane. Strychnine. Nux Vomica. Digitalis. Aconite. Lobelia (Indian Tobacco). Tobacco or Nicotine Poisoning. Savine. Poisoning by Eating Poisonous Meats, Fish, Oysters and Poisonous Mushrooms and Toadstools. A Complete Table of Poisons and Their Antidotes Appended.

The vegetable poisons are so often taken in consequence of mistakes in the use of medicine, that it is a wise precaution that a poisonous drug should always be contained in a bottle of peculiar shape, or with something peculiar attached to its neck, and that there should also be a special place in each house where *dangerous remedies*, and such as are intended only *for external use* should be kept. For the sake of general information, the writer herewith describes the history, origin and uses of the narcotics and medicines which are so largely used by the profession at large and in fact constitute a class of indispensable remedies in the practice of medicine which no physician dares to discard from his list. But the same are sometimes administered in poisonous or over doses, by *ignorance, mistake or intentionally* and a person cannot possibly know too much about these valuable, yet potent drugs. The knowledge of the action, dose, and application in the treatment of disease, as well as their poisonous character and how to combat their ill effects, should certainly be very interesting reading to the most fastidious.

STRAMONIUM OR HEXAKIMMEL.

Stramonium, usually known as "thorn apple," "Jamestown" or "Jimson Weed," and vulgarly called "Hexakimmel," is an

annual native plant which abounds in Europe and the United States, growing luxuriantly wherever the soil is fertile, but especially near the habitations of men. It is very often seen around our barnyards and pig pens, and children often gather the seeds and eat them. It derives the name "Jamestown Weed," from the circumstance that a party of English soldiers, during the Revolutionary War, while encamped at Jamestown, Va., were poisoned by the leaves of the plant which they boiled and ate as greens and drank as tea. It has a forked, branching stem, from three to six feet high, ovate, toothed leaves of an elongated triangular form; they are of a dark green color above, but paler below. The flower is large and funnel shaped, of white or blue purplish color, which appear in midsummer and is succeeded by a green capsule of the size and form of an English walnut, covered with prickles and containing numerous dark kidney-shaped seeds of a brownish black color. The plant very much resembles the castor oil plant. The whole plant exhales a rank narcotic odor.

From its common occurrence in every part of the country, cases of poisoning from this weed are very frequent, and as has been said particularly with children, who are fond of swallowing the seeds.

The mental excitement and disorder occasioned by an overdose of stramonium may be very aptly illustrated by the case of the soldiers at Jamestown which was alluded to above. Beverley, in his "History of Virginia," informs us that "some of them ate plentifully of the plant, the effect of which was a very pleasant comedy, for they turned natural fools upon it for several days. One would blow up a feather in the air, another would dart straws at it with much fury, and another, stark naked, was sitting up in a corner like a monkey, grinning and making mouths at them; a fourth would fondly kiss and paw his companions, and sneer in their faces with a countenance more antic than in any Dutch droll. In this frantic condition they were confined, lest they should in their folly destroy themselves; though it was observed that all their actions were full of innocence and good nature. * * * After eleven days they returned to

themselves again not remembering anything that had passed." In other cases the patient seems plunged in a reverie which is interrupted by sudden shrieks or by convulsions; and in others still, the delirium is so furious as to call for forcible restraint. Meanwhile the head is hot, the pupils largely dilated, objects are seen as through a mist and often appearing double, the face bloated and red, and the hands and feet cold and tremulous.

These peculiar qualities of this weed have rendered it a convenient agent for the speculations of knavery, for there is reason to believe that much of the phantasmagoria of sorcery was derived from this source, and that the oblivious intoxication of stramonium has been employed to facilitate and conceal the perpetration of crime. The latter is attributed to the Hindoos, but seems to have Christian imitators. For, as the French medical writers, Trousseau and Pidoux relate, a band of thieves was brought to trial whose plan of procedure was this: They mixed the powder of stramonium seeds with snuff, and, in places of public resort, were very assiduous in offering the snuff box to such of their neighbors as they wished to rob. As soon as the victims began to be confused and talk at random, they were pillaged without difficulty.

The weed has, however, many excellent medicinal uses. It is prescribed internally in neuralgia, whooping cough, mania, epilepsy, &c., and in spasmodic asthma, cigarettes of the leaves are smoked with great relief. The practice, is however, dangerous in aged or apoplectic persons.

Stramonium is also used by oculists to dilate the pupils and diminish the sensibility of the retina to light; and it is an excellent anodyne (pain-allaying) application, in the form of cataplasm (poultice) and ointment, to inflammatory swellings, irritable ulcers, bed sores, and hemorrhoids (piles).

In cases of poisoning by stramonium, the poison must be evacuated at once by the use of the stomach pump or by an emetic. Unless distinct symptoms follow, no further treatment may be necessary; if, however, marked dilatation of the pupil, hallucination and active delirium are produced, the physiological antagonist, opium, becomes necessary. Tinct. of opium should

be administered until some contraction of the pupil, lessening of the pulse rate and cessation of the delirium occur. If then normal sleep comes on, the pulse, heart and lungs functioning naturally, no further interference will be necessary. In cases of poisoning, in children especially, it is particularly desirable to employ the opium with the greatest caution, since children are very susceptible to this drug, and opium narcosis may readily be substituted for stramonium poisoning. When there is a certainty that this poison has been introduced into the system the writer would urgently request that the services of a competent physician be at once summoned.

BELLADONNA.

Belladonna was so called by the Venetians, because according to some writers, it entered into the composition of a cosmetic employed by the Italian ladies. Others will have it that the visions of beautiful women which it sometimes excites conferred its name upon the plant. Its popular name (deadly nightshade), which is of German origin, is probably derived from the poisonous qualities with which every part of the plant is endowed. Belladonna is administered internally as an anodyne, in all forms of pain; in neuralgia, spasms, etc., and sometimes to procure sleep. It is likewise a capital remedy in the wasting night sweats of phthisis and rheumatism. Its active principle, sulphate of atropia, is largely employed by oculists to dilate the pupil, and in diseases and operations of the eye in general. Atropia mixed with oil of sweet almonds is the best remedy known for earache, when dropped into the ear.

The extract of belladonna in suppositories is very valuable in painful hemorrhoids. The medicinal dose of belladonna is $\frac{1}{4}$ of a grain of the extract, 15 to 20 drops of the tincture, and of the sulphate of atropia 1-50 to 1-20 of a grain. The treatment for poisoning by belladonna is exactly the same as in stramonium poisoning. Opium is likewise the physiological antagonist or antidote.*

* See Opium.

HENBANE.

Hyoscyamus or Henbane. The name of this medicine is derived from two Greek words, "hus," a hog, and "kuamos," a bean, indicating that it is a kind of food of which hogs are fond. The vulgar name, henbane, refers to its poisonous effect upon fowls. The plant is a native of Europe, but naturalized in the United States. When mature it is from two to four feet in height; the leaves are large, long, deeply incised, like the stem, hairy, and of a pale green color; at the upper part of the stem they are sessile, soft, cottony, and clammy, and exhale a foul, heavy and sickening odor, which has been compared to that of the black currant. From its resemblance to certain edible tap-roots, and particularly that of the parsnip, it has frequently been eaten by mistake and produced poisonous effects. Hyoscyamus taken internally, like belladonna, dilates the pupils and like it acts as a nerve sedative, but is more depressant in its action. Used in mania, conditions of spasm (convulsions, colic and whooping cough), etc. Dose of the solid extract 2 grains. Fluid extract, 5 to 10 drops. Tincture $\frac{1}{2}$ to 1 teaspoonful. Antidote and treatment for poisoning by hyoscyamus is the same as that recommended by poisoning from belladonna and stramonium.*

OPIUM AND ITS ALKALOID, MORPHINE.

Opium is the concrete juice of the unripe capsules of *papaver somniferum*. This is a species of poppy of which there are several varieties. It is a native plant of Asia, but now grows wild, or is cultivated in every part of Europe and the United States. Its culture for the production of opium has been chiefly carried on in India, Persia, Egypt, and Turkey in Asia, and of late years in the south of France. The principal constituent of opium is morphine, but it also contains other alkaloids, as codeine, narceine, papaverine, and others, which in the main resemble morphine in their action.

Opium is obtained from the capsules as soon as their leaves are fallen, by making superficial incisions from which the juice flows and concretes in grains or tears. Opium in powder, tincture, or morphine is very largely employed in

*See Belladonna and Stramonium.

medicine for the alleviation of pain of all kinds ; in insomnia (sleeplessness), especially when due to pain ; hiccough, colic, cramp of the stomach, cough, inflammation of the peritonium, bladder, pleura and lungs. In fever it allays delirium and procures rest and sleep. In the form of Dover's powder it is an invaluable remedy to produce diaphoresis (sweating), in acute catarrhal inflammations or rheumatism. It is also used locally as an anodyne and astringent.

When taken in an overdose it produces unbearable drowsiness or coma (profound sleep), with dry, dusky skin, stertorous, (loud snoring,) very infrequent breathing, slow, full pulse and very contracted pupils, causing death from respiratory failure.

Taken habitually opium causes a state of mental and physical depression, with deterioration of moral character and other bad symptoms. While the writer would not like to say that the opium habit directly shortens life, he is, however, cognizant that it often makes life so miserable and burdensome that he would enjoin upon all, not to fall into this direful habit. It should be remembered that children bear opium very badly and it should only be administered to them with the greatest caution.

The medical doses, for adults, of the chief preparations of opium are as follows: Powder, 1 to 2 grains ; tincture (laudanum), 20 to 30 drops ; sulphate of morphine $\frac{1}{8}$ to $\frac{1}{4}$ grains ; tincture opii camph. (paregoric), one to two teaspoonfuls. Children proportionately smaller doses. Morphine is now generally administered hypodermically (in the same doses as per mouth) by physicians and is frequently combined with sulphate of atropia. Its action by this method is much quicker and more effectual, and likewise safer, as the doses can be better controlled. Given per mouth its action will be greatly modified by the contents of the stomach—which if full will retard its action very much.

As opium and its preparations produce narcotism, in so far only as they are absorbed, and as no chemical re-agent is known by means of which the active principles of the narcotic can with certainty be rendered insoluble in the stomach, there remain no other modes of procedure, when a poisonous dose of opium has

been swallowed, than to remove it from the stomach, and then, if its constitutional effects appear, to combat them by means of stimulants or antidotes addressed to the nervous system.

The primary indication which has been mentioned is often difficult of fulfilment, for the nervous system is already benumbed, when medical aid is sought and the emetics which operate by direct contact with the extremities of the nerves concerned in the act of vomiting, no longer produce this result, or only the more powerful among them, and in very large doses. In mild cases, and when the drug has been very recently taken, a dose of ipecacuanha will generally suffice to procure its rejection, or a copious draught of tepid water containing mustard or salt may answer the same purpose.

If these fail, sulphate of zinc, in doses of from one to two drachms should be given ; and even a still more powerful emetic, sulphate of copper, may be administered instead, in six grain doses. Plenty of strong coffee without milk or sugar is a domestic remedy that is quickly obtained.

Atropia, the active principle of belladonna, is the most valuable physiological antidote. It should be administered hypodermically at the onset or immediately upon the arrival of a physician and may be given before the trial of emetics as it does not at all retard their action. Electricity properly employed is another means of stimulating the respirations, which in opium poisoning frequently drop to eight or less per minute in desperate cases.

Artificial respiration, motion and friction are imperative. As a matter of course skilled medical aid should be promptly employed. The writer would in this connection state that permanganate of potassium has quite recently been suggested as a sure chemical antidote for the alkaloids of opium, especially morphine, but at this writing the matter has not been sufficiently tested to merit more than a passing notice.

STRYCHNINE AND NUX VOMICA.

Strychnos Nux Vomica, or poison-nut, is a middling-sized tree of the coast of Coromandel and other parts of India, which

bears a round, smooth berry, the size of a pretty large apple, of a rich orange color, and containing numerous seed imbedded in a juicy pulp. The seed, which are odorless and intensely bitter, are the officinal portion. Strychnine is the alkaloid and active principle of *nux vomica*.

Medicinal Uses.—This medicine is our chief resource in torpid or paralytic conditions of the motor or sensitive nerves, or of the muscular fiber. When, however, paralysis is the result of inflammation of the nervous centers, it is injurious, and accelerates organic changes. It is most beneficial in those forms of paralysis which are independent of structural lesion, as lead-palsy, or paralysis from drunkenness. In paralysis arising from cerebral hæmorrhage, after the absorption of the effused blood, when the paralysis remains, it is almost certain to do very much good. In these cases, strychnine is recommended in doses of gr. 1-30 injected into the corresponding temporal region. It should be administered daily, and the dose increased until slight twitchings of the muscles are produced. It has also been found beneficial in constipation, dysentery, cholera, diarrhœa, sexual impotence, incontinence of urine, spermatorrhœa, and other affections depending on functional atony and relaxation of muscular fibres; in chorea and in epilepsy it is highly recommended; and in small doses, it has been used with excellent effect, as a general tonic where there is loss of nerve-power, and also as a stomachic in dyspepsia, and to relieve the vomiting of pregnancy.

Strychnine now holds a very high rank as a therapeutic agent in the practice of medicine. It is one of the very best remedies in heart-failure from shock and otherwise, and is best administered hypodermatically. The dose of the tincture of *nux vomica* is from 5 to 20 drops; of the sulphate of strychnine 1-60 grain.

A tolerance of *nux vomica* and strychnine is rapidly established in the system and much larger doses will be borne.

The smallest quantity of *nux vomica* which is known to have caused death is said to have been 3 grains of the alcoholic extract. Of strychnia, the least dose which is recorded, as having proved fatal appears to be 1 grain. Recovery, however occasionally takes

place after very large doses, such as 3 or even 4 grains of strychnine, have been taken.

Antidotes and Treatment for Poisoning by Nux Vomica and Strychnine.—The object of treatment should be the *prevention* of the *absorption* of the poison in the stomach, by prompt emetics, and by *counteracting* the nervous derangement and excitement which result from its *absorption*. Bromide of potassium in doses of 30 grains, or 20 grains chloral, or both, to an adult. Tannic acid is a valuable chemical antidote and prevents the absorption of the poison. Opium and camphor in large doses are also very valuable to allay the tetanic spasms or convulsions which the poison produces. The greatest quiet must be secured and the poisoned person should be put to bed in a darkened room, with doors, windows, and shutters arranged in a way that should exclude all light, sounds and draughts, though permitting ventilation. It is unnecessary to remark that prompt and skilled treatment must be instituted, as these poisons destroy life very rapidly if not scientifically combated.

DIGITALIS (FOX-GLOVE.)

This beautiful plant of the garden, cultivated in this country for its flower, and used, in proper quantities, is a valuable medicine, it being the best heart tonic we possess; and is used in a great many affections.

Digitalis is also one of the most generally useful remedies in dropsy which we have. It is of course, especially indicated in the mechanical dropsy of valvular lesions. In *renal dropsy*, of all drugs, digitalis is of the greatest value; and the best form in which to administer it is the infusion. Several days usually elapse before very decisive results are achieved, but the flow of urine is, then, often enormous.

Medical Doses.—Digitalis may be given in powder, dose 1 grain two or three times a day; *Abstract* doses $\frac{1}{2}$ grain to 1 grain; Infusion, dose 2 to 4 fluid drachms; *Tincture*, dose 5 drops to 1 fluid drachm; the *Extract* (alcoholic), dose $\frac{1}{4}$ grain, gradually increased; *Fluid Extract*, dose, 1 drop to begin with. If digitalis produces wakefulness, a little opium may be combined

with it. Digitalis is, however, a *poison* of the narcotic class, with a disposition to overcome that portion of the nervous system controlling the action of the *heart*. The same *treatment* should be pursued when digitalis has been taken in poisonous quantities, as recommended for other narcotics. The peculiar tendency to stop the action of the heart should be especially combated by giving 20 or 30 drops of aromatic spirits of ammonia every 3 or 4 minutes in a tablespoonful of water, or some other stimulant.

ACONITE.

Aconitum Napellus, aconite, wolfsbane, or monkshood, is a native of the mountainous parts of Europe and Asia. The roots and leaves are the portions used in medicine. It is brought from Europe, India and Japan. The active principle of aconite is an alkaloid named *Aconitine*, which is an exceedingly virulent poison, more powerful when pure than hydrocyanic (prussic) acid. This agent is scarcely adapted to internal use, as even 1-50 of a grain has produced alarming results, but as a *local* agent in neuralgia and rheumatism, it has been employed with great success.

Aconite is a powerful and valuable remedy in the treatment of neuralgia, chronic rheumatism, gout, and other painful diseases, as might be inferred from its *benumbing* effects on the system. From its influence on the circulation, it is employed to reduce inflammatory action, to moderate an excessively rapid pulse in scarlatina and other fevers, and as a remedy in enlargement and other cases of excessive action of the heart. It is contraindicated when the heart is weak from any cause, as dilatation, or in valvular incompetency. In pleurisy, pericarditis, also in pneumonia, before the exudative stage, aconite is a good remedy and is given until its effects are obtained. Aconite has done much good in relieving an attack of tonsillitis. In controlling abnormal cardiac action aconite is perhaps the most available article, for this purpose, we possess, but its employment requires caution. As an external application in neuralgia, it has no superior.

Poisoning and Treatment.—Aconite aside from being taken for suicidal purposes, or in mistake for whiskey which it so much resembles in odor, color, and taste, aconite is sometimes contained in liniments, and swallowed by mistake. In all such cases vomiting must be brought on *speedily*, followed by the administration of stimulants, aromatic spirits of ammonia in teaspoonful doses, wine, whiskey, or brandy. Strong coffee may also be used. If there is depression, warmth must be used as described when speaking of unknown poisons, and the attention of a physician is *imperative*.

The preparations of aconite kept in our drug stores, are the tinctures of the root and leaves. The dose of the tincture of the root is from 3 to 5 drops and that of the tincture of the leaves 5 to 10 drops. The dose of the extract of aconite is from $\frac{1}{2}$ to 1 grain.

LOBELIA (INDIAN TOBACCO.)

This vegetable is not now much used as a medicine by physicians, as the comparatively recent discoveries in chemistry have added substitutes to the list of drugs, without the peculiar disadvantages of this substance. Fortunately one of the symptoms following its use is vomiting. This should be encouraged by drinks of tepid water, gum-arabic water, etc., and, if kept up until all the poison is rejected by the stomach, a favorable issue may be expected. Should vomiting not occur *at once*, as a symptom, enough of the poison may be absorbed into the blood to exert a fatal narcotic influence upon the brain and nervous system; or perhaps, to speak more precisely, through these organs upon the movement of respiration and circulation of the blood.

TOBACCO (NICOTIANA TABACUM).

The specific name of the tobacco plant is derived by Neander, one of the earliest of the numerous writers upon the subject, from *Tabaco*, a province of New Spain, situated about forty-four miles from the city of Mexico, and which afterwards was called "Our Lady of Victory," in commemoration of a battle there won by Cortez, in 1519. The generic title was conferred

in honor of John Nicot, of Nismes, ambassador of France, at the court of Portugal, in the year 1560. At Lisbon he was presented with a specimen of the plant, recently brought from Florida, and caused it to be cultivated in his garden. On returning to France he presented some of its seed to the queen, who encouraged its culture. From these circumstances it was named *The Ambassador's Plant*, *The Queen's Plant*, etc., and, indeed it was called by many other titles which have been forgotten, in favor of his whose influence chiefly promoted its culture in Europe. It would appear that the luxurious uses to which tobacco is at present chiefly applied, were but little regarded, until the return of Sir Francis Drake from Virginia, in 1586. This officer brought with him some of the pipes used by the aborigines, and so introduced the practice of smoking, which soon became fashionable under the patronage of Sir Walter Raleigh, and the gentlemen of the court. Tobacco plants were found by Cartier, in Canada, in 1535, to be held in great esteem by the Indians, and a century later Hawkins described it as a favorite luxury of the natives of Florida. Although the use of tobacco rapidly became general, there were not wanting many writers to deery it, and attribute to its use a multitude of mischiefs. The Pilgrim Fathers of New England and their descendants distinguished themselves by enactments against the use of the weed. Tobacco is now cultivated in almost every part of the world, and after having been rigidly interdicted by several governments of Europe, has become one of the most fruitful sources of revenue.

Tobacco is employed as a remedial agent in medicine—both internally and externally. To a person not accustomed to its effects, by beginning with small quantities, and persisting in its use, tobacco is an acro-narcotic (irritant and stupefying) poison, agreeing in its essential character with aconite and others of the same general class. The movements of the heart become so much interfered with that death may take place unless proper assistance is at once given. Fortunately, like lobelia, it acts as an emetic, and before enough can be absorbed into the blood from the stomach, the contents of that organ are rejected. Hence,

when death has ensued from the direct use of tobacco, we find that it was used as an injection, a form in which it should *never* be given.

SAVINE.

This is an active irritant poison inflaming the stomach and bowels. When thus taken, vomiting, by tickling the throat with the finger or feather should be induced. The mucous membrane (lining) of the bowels should be protected from the irritant action of what has escaped beyond the stomach before it could be emptied by vomiting, by drinking large quantities of water or milk, with good quantities of gum-arabic dissolved in it. If the oil of savine, which is the usual form of the substance when used with a criminal intent, has been taken, it might be well to take a dose of castor oil.

POISONING BY MUSHROOMS.

Persons not well acquainted with the difference between the poisonous and edible mushrooms had better buy them of those who are, or go without. There are distinctions between them, but they are not of such a character as can be made evident in a place like this. When poisoning from eating mushrooms does take place, the contents of the stomach should be evacuated by an emetic. After vomiting has commenced, it should be promoted by draughts of warm water, barley water, but particularly by drinking copiously of warm milk and water, to which sugar has been added. What has passed along into the bowels should be hurried out as fast as possible, by some cathartic, before further absorption into the blood can take place. Castor oil might be peculiarly useful in such a case. If there is much prostration of the strength, some easily procured stimulant might be useful, as the spirits of ammonia or brandy.

POISONOUS MEATS.

Eating meats of diseased animals is often followed by symptoms of a poisonous character. Animals in otherwise perfect health, but which have been butchered and prepared for

food after long and exhaustive confinement, are unfit for eating. Not only is the meat of such animals lacking in *nutritive* character, when compared with the meat of animals killed from the pasture without excitement, or after being kept until proper recovery from the effects of the journey to market, but it is much less savory, and shows a disposition to much more readily decompose. It might be here stated that it has been estimated by competent authorities, that between the two kinds of meat there is, in a commercial sense alone, as far as nutriment is concerned, a difference of nearly fifty per cent in favor of the meat of healthful animals, butchered after complete recovery from the excitement and fatigue of drive or carriage to market. The additional cost per pound of meat to cover the expenses of extra care and precaution before butchering, would amount to but a small fraction of the percentage named, leaving the rest of it a true profit to the consumer. The eating of this over-driven meat, it is said, is often followed by symptoms of irritation of the stomach and bowels; but they can, in the ordinary sense of the word, scarcely be said to be of poisonous character, however much the use of them may temporarily derange the health.

POISONOUS FISH.

Several varieties of fish, at *all* seasons of the year, are reputed to be poisonous. Of course, they should always be let alone. Should they have been eaten by accident, the best treatment is that given under the head of "poisoning by mushrooms." Shell-fish at certain seasons of the year after spawning, are considered poisonous when eaten; at least, they are unhealthy. This process of nature is known to be very exhausting, during which, or just afterward, the individual is so reduced in vitality as to be unable to resist ordinary tendency to decomposition. Oysters in hot weather are often unwholesome perhaps from the causes suggested; or it may be that the collection of liquid secretion between the shell and the contained animal, in hot weather, is in a state favorable to putrefaction upon slight exposure to the air; and the disagreeable symptoms often said to arise after partaking of this fish as food is due to this as much as anything else.

POISONS AND THEIR ANTIDOTES.

RESUMÉ.—We have thus completed the list of poisons that are at all common, and stated at length what should be done in almost any case that may occur. To save time in an emergency, the following table, which is alphabetically arranged, may be consulted, which gives the name and treatment of all the poisons in general.

POISONS.	ANTIDOTES.—TREATMENT.
Unknown.	Induce repeated vomiting by the methods already described, such as mustard and water, salt and water, etc. Administer demulcent drinks freely. If depression—stimulate with whiskey, ammonia and external heat.
ACIDS.	Alkalies—Soap, chalk, lime-water, magnesia, bi-carbonate of soda solution, carbonate of soda, plaster off wall in emergency. Mucilaginous drinks, barley-water, milk. The fixed oils [except in carbolic acid.] The stomach pump not to be used [except in carbolic acid]. Secure rest and relieve pain by morphine hypodermically. Stimulate if necessary.
Acetic. Carbolic. Citric. Muriatic. [Hydrochloric.] Nitric. Oxalic. Sulphuric. Tartaric. Prussic [see Hydrocyanic Acid.]	Emetic or stomach pump. Stimulants, external and internal. Keep up external heat. Keep flat on back. Hypodermic injections of digitalis.
Aconite.	

POISONS.	ANTIDOTES AND TREATMENT.
Antimony. [Tartar emetic, etc.]	Vegetable acids, such as tannic acid, catechu; albumen [white of eggs], mucilage; opium and stimulants.
Ammonia.	When taken by inhalation, inhalations of chloroform to relieve spasm; when swallowed, dilute vinegar, lemon-juice, olive-oil, milk; do not use stomach-pump.
Arsenic.	Stomach pump and emetics. Freshly precipitated hydrated sesquioxide of iron, made by adding magnesia to any iron solution. Give dose castor oil. Opium and alcoholic stimulants for systemic depression.
Atropia [the active principle of belladonna].	Emetics—mustard, flour and water; give pilocarpine, opium or morphine. The caustic alkalies destroy the active principle, but the available chemical antidotes are tannin, compound solutions of iodine, charcoal, etc. Cold to the head.
Belladonna.	Same as atropia. Opium or morphine for cerebral symptoms, but not pushed to excess.
Camphor.	Alcohol; emetics; caffeine; the arterial sedatives, etc.

POISONS.	ANTIDOTES.—TREATMENT.
Cantharides.	Emetics ; castor oil ; demulcent drinks [not containing oil] ; opium by enema ; warm baths ; poultices to abdomen.
CAUSTIC ALKALIES : Caustic Potash. Caustic Soda. Caustic Lime, etc.	Dilute vinegar or lemon juice ; demulcent drinks ; olive oil in quantities [forms soap] ; milk ; morphine hypodermically for pain and rest ; stimulants for collapse.
Carbolic Acid.	A soluble sulphate [epsom salt, Glauber's salt] ; emetics, stomach-pump ; bi-carbonate of soda, lime water and chalk ; mucilaginous drinks ; heat to extremities, digitalis and strychnine for collapse.
Chlorine Water.	Albumen [white of egg] ; milk ; flour.
Chlorine Gas.	Ammonia.
Cannabis Indica. [Indian Hemp.]	Caustic alkalies ; strychnine ; faradic electricity.
Chloral Hydrate.	Stomach pump [safer than emetics], ether, ammonia, atropia, whiskey or digitalis hypodermically ; head lowered, heat and galvanism to overcome heart depression. Strychnia is a recommended antagonist, but its range is limited.

POISONS.	ANTIDOTES.—TREATMENT.
Chloroform.	Fresh air ; artificial respiration [inclining head down, pull tongue forward] ; hypodermic injection of ether, brandy, strychnine, digitalis or atropine ; a single whiff of amyl nitrite ; heat ; friction ; electricity, etc.
Colchicum.	Emetics, followed by demulcent drinks. If <i>coma</i> be present, brandy, ammonia, coffee. Opium in large dose ; keep up external heat.
Conium.	Emetics, followed by stimulants, external and internal.
Copper Sulphate.	Yellow prussiate of potash or soap. Sweet-oil or albumen [white of egg] and emetics and the usual systemic remedies.
Corrosive Sublimate.	Albumen [white of egg], [4 grains sublimate require white of one egg], flour, milk. Equal parts of lime water and milk. Emetics, or evacuate stomach by pump. Heat to body and stimulants hypodermically.
Curara or Woorara.	Caustic alkalies and tannin act chemically ; artificial respiration is of importance. Cold effusion and emetics are necessary. Atropine and strychnine to counteract the respiratory failure.

POISONS.	ANTIDOTES.—TREATMENT.
Croton Oil.	Emetics ; wash out stomach, followed by mucilaginous fluids, containing opium.
Digitalis.	Emetics or stomach pump and opium ; give tinct. aconite, amyl nitrite ; tannin [or green tea] ; sulphate of iron, is a chemical antidote. Recumbent position after emetics. Stimulants not given even when pulse is weak.
Elatarium. [Squirting Cucumber.]	Demulcent drinks, enemata of opium, and external heat. Stimulants and proper aliment.
Ergot.	The caustic alkalies ; aconite ; but especially amyl nitrite.
Ether.	Artificial respiration ; head lowered if face is pale, otherwise not ; strychnine, atropine, digitalis or ammonia hypodermically ; friction, heat, flagellation, galvanic battery, cold affusion.
Gold Chloride.	Same as mercury.
Gelsemium or " Yellow Jasmine."	Chemically, caustic alkalies, and tannic acid. Emetics, warmth ammonia, artificial respiration, and morphine, sub-cutaneously, are the important measures.
Hedragogue Cathartics.	Demulcents, opium and stimulants.

POISONS.

Hydrocyanic Acid
[Prussic]
and Cyanide of
Potassium.

Hyoscyamus.

Illuminating Gas.
[Common Burning Gas.]

Iodine, and its poisonous
compounds.
Iodoform.

Lead-Acetate.
[Sugar of Lead.]

ANTIDOTES.—TREATMENT.

Cold affusion to the spine, inhalations of ammonia ; electricity ; artificial respiration ; the injection of atropine, carbonate of potassium 20 grains in water, are the best expedients. Emetics should be given if there is time.

Stomach pump ; emetics ; and chemical antidotes and antagonists same as for belladonna.

Fresh air : hypodermic injections of nitro glycerine ; artificial respiration and stimulants are recommended by Prof. Kloman of Baltimore.

Starch is the antidote for iodine ; but as the iodide of starch is not without power, emetics should also be given. Albumen, starch, lime water, tannin, soap, etc., should be used in poisoning by iodides, and free vomiting induced. Strychnine, atropine, alcohol, ammonia, or digitalis hypodermically.

Diluted sulphuric acid ; alum ; epsom salt ; milk ; hot applications to belly and feet ; opiates for pain ; white vitriol as emetic. Use purgatives, and iodide and bromides to secure elimination.

POISONS.	ANTIDOTES.—TREATMENT.
Lobelia. [Indian Tobacco.]	Stimulants externally and internally ; external heat.
Morphine.	Same as opium.
Muscarine or "The Fly-Fungus."	A complete antagonism exists between atropine and muscarine ; also digitaline and eserine are antagonists.
Mercury and its compounds.	Albumen [white of egg], tannin, lime-water, should be administered freely. Emetics should be given. For the usual systemic depression, opium, alcoholic stimulants, etc.
Mushrooms and Toadstools.	Atropine ; heat and stimulants ; emetics.
Nux Vomica and its alkaloids.	30 grains of chloral and 60 grains of bromide of potash. Nitrite of amyl. Tannin is a chemical antidote. Stomach-pump.
Nitro-glycerin and Nitrite of Amyl.	Ammonia, cold affusion, and artificial respiration ; strychnine and atrophia sub-cutaneously, also ergot, a true physiological antagonist.
Opium or Laudanum.	Atropine hypodermatically till respirations number 8 per minute. Stomach pump, stimulants external and internal, brandy and coffee, cold affusion, ammonia to nostrils, galvanic shocks, compelling to move about, artificial respiration, electric brush. Permanganate of potassium.

POISONS.	ANTIDOTES.—TREATMENT.
Phosphorus.	Sulphate of copper in emetic dose as chemical antidote. Ozonized oil of old turpentine [not fresh oil of turpentine nor any other oils.] Emetics and purgatives. Stimulants for collapse.
Potash and Soda salts.	Dilute acetic acid, citric acid, lemon juice, fixed oils, demulcents, vinegar.
Picrotoxin.	The physiological antagonists and antidotes are the same as for strychnia.
Pilocarpus.	Atropine is in a very complete degree, the physiological antagonist; heart stimulants, as ammonia and alcohol, antagonize the heart's weakness.
Physostigma.	Emetic. The vegetable astringents and tannin are antidotes.
Salicylic acid.	Respiratory stimulants [strychnine, atropine, ammonia]; application of heat.
Silver Nitrate [Lunar Caustic.]	Common salt; oily and mucilaginous drinks, milk or soap and water, white of egg; emetics, application of heat and stimulants.
Soda.	See Alkalies.
Stramonium.	Same as belladonna.
Strychnine.	Same as nux vomica.

POISONS.	ANTIDOTES.—TREATMENT.
Resorcin.	Arterial and respiratory stimulants prevent the cardiac depression, especially atropine.
Tobacco or Nicotine.	Emetics, stomach-pump, tannin, compound solution of iodine, chemical antidotes. Ammonia, brandy, strychnia, atropia, to overcome failure of respiration; also artificial respiration.
Turpentine.	Emetics, diluents, and demulcents. Opium is the most important remedy to counteract the irritation.
Veratum Viride. [American hellebore.]	Ammonia, alcohol, artificial respiration, heat, atropine or morphine sub-cutaneously; also digitalis.
Zinc salts [chloride and sulphate.]	Carbonate of soda, emetics, warm demulcent drinks. White of egg.

CHAPTER VIII.

MATERIA MEDICA AND THERAPEUTICS.

Pharmacy. The Derivation of Medical Agents. Hygienic—Mechanical—Imponderable and Medical. Blood-letting by Venesection, Cupping and Leeches. Light, Heat, Cold and Electricity. The Modus Operandi and Application of Medicines. The Different Methods Given, and the Circumstances Modifying Their Action Fully Described. Apothecaries' Weight and Measures. Abbreviations and Symbols Used in Writing Prescriptions and in Medicine generally. The Classification of Medicines According to Their Action on the Animal Economy, Fully Defined. Diuretics—Emetics—Tonics—Astringents—Diaphoretics—Narcotics—Emmenagogues—Cathartics—Antacids—Anti-Spasmodics—Irritants—Demulcents—Anthelmintics—Anæsthetics—Spinants—Alteratives—Antiseptics—etc.

Medicinal agents are obtained from the animal, vegetable and mineral kingdoms.

The agents employed in the treatment of diseases are denominated remedies, and the branch of medicines which is devoted to their consideration is termed *Materia Medica*.

Remedies may be divided into hygienic, mechanical, imponderable and pharmacological (medical) agents.

Mechanical remedies are *blood-letting* (bleeding) (general and local), *setons*, *issues*, *bandages*, *friction*, *acupuncture*, and *aspiration*. Blood-letting is performed by *venesection* or *phlebotomy* which is usually practised on the median-cephalic or basalic veins of the arm.

Local abstraction of blood is practised by means of *leeches* (blood-suckers) cupping and scarifications.

The imponderable remedies are *light*, *heat*, *cold* and *electricity*.

Pharmacological (medical) remedies, or medicines, are substances not essentially alimentary, which, when applied to the body, so alter or modify its vital functions as to be rendered applicable to the treatment of diseases.

The designation *materia medica*, or pharmacology, is, *strictly speaking*, limited to the consideration of medicines. The application of medicines to the treatment of diseases is termed therapeutics. Pharmacy is the department of *materia medica* which treats of the collection, preparation, preservation, and dispensation of medicines.

The effects of medicines take place either in the parts to which they are applied or in distant parts of the system. The former are termed *local* or *topical effects*; the latter, *remote* or *constitutional effects*.

The medium through which the influence of medicine is exerted on remote parts of the body is called *modus operandi*. It is now generally admitted that the absorption or passage of the medicinal or poisonous molecules into the blood is necessary to their action on parts remote from the seat of impression. The absorption of medicines is effected principally by the veins, and in some degree also by the lymphatics and lacteals. The medicinal particles penetrate or soak through the interstices of the tissue with which they are placed in contact, and are thence diffused through the circulation. The absorption of insoluble substances cannot take place until they are previously rendered soluble. In the stomach, this is accomplished partly by the agency of the acids of digestion, and partly by the albuminoid constituents of the gastric fluid. Some substances are dissolved by the alkaline liquids of the small intestine.

The circumstances which modify the effects of medicines relate both to the medicines and to the human system.

1. The properties of medicines are modified by the soil in which they grow, by climate, cultivation, age, and the season of the year at which they are gathered.

2. Medicines are more active, because more readily absorbed, in a state of solution than in a solid state.

3. Soluble medicines are often rendered inert by a chemical re-action which converts them into insolubles, or by a physiological antagonism, exerted by some other medicine taken at or about the same time, which counteracts their effects throughout a part or the whole of their range of action; in this way, chemical and

physiological antidotes modify the effects of poisons. When the chemical composition of medicines involves their mutual decomposition, they are said to be *incompatible*.

4. Differences in dose greatly modify the effects of medicines.

5. Pharmaceutical modifications have an important influence on the efficacy of medicines. They may be exhibited in the solid, semi-solid, liquid, and æriform states.

In the *solid* state, they are administered in the shape of abstracts, triturations, extracts, powders, pills, lozenges, confections, and papers.

In the *liquid* state, they are administered in the shape of fluid extracts, mixtures, solutions, medicated waters, infusions, decoctions, tinctures, spirits, wines, juices, vinegars, honeys, syrups, and glycerites.

In the *semi-solid*, or soft state, they are employed internally in the form of suppositories, and externally, in that of liniments, ointments, cerates, plasters, and cataplasms (poultices.)

In the form of *gases* and *vapors*, medicines are used for purposes of inhalation.

Infusions are partial solutions of vegetable substances in water, obtained without the aid of ebullition or boiling. They are made with both hot and cold water.

Decoctions are partial solutions of vegetable substances in water, in which the active principles are obtained by boiling. This is a more rapid and efficient mode of extracting the virtues of plants than by infusion. But it is objectionable when the proximate principles are volatile at a boiling heat or undergo decomposition by ebullition. In making decoctions boiling should be continued for a few minutes only and here I will say the same rule applies to the making of coffee and tea.

WEIGHTS AND MEASURES.

In prescribing and dispensing medicines the following are the weights and measures employed in the United States, with their signs annexed.

APPROXIMATE MEASURES.

1 teaspoon (holding 60 drops of pure water) =	about one drachm, $\bar{z}i$.
1 tablespoon	= about one half ounce, $\bar{z}ss$.
1 wineglass	= about two ounces, $\bar{z}ii$.
1 tea-cup	= about four ounces, $\bar{z}iv$.
1 coffee-cup	= about eight ounces, $\bar{z}viii$.

Medicines should be measured in a graduated glass, or doses of less than a drachm in a minim-tube, both of which can be procured at any drug-store. Spoons are of very variable capacity, and drops differ with the consistence of the fluid and the shape of the edge over which they are poured, so that they can be with the greatest care only approximate measures. A minim, the smallest accurate liquid measure, is equivalent to about one drop of an aqueous solution, but it makes three or four of chloroform. The minim of any tincture is usually two drops, of a fluid extract but one.

MEANING OF ABBREVIATIONS AND SYMBOLS USED IN WRITING PRESCRIPTIONS.

- \overline{AA} , *ana*, of each.
 Add, *adde*, add to it.
 Ad. lib., *ad libitum*, as you please.
 Alt. hor., *alternis horis*, every other hour.
 Alt. noc., *alterna nocte*, every other night.
 Applic., *applicatur*, apply.
 Aq. dest., *aqua destillata*, distilled water.
 Aq. pur., *aqua pura*, pure water.
 B. i. d., *bis in dies*, twice a day.
 C., *conguis*, a gallon.
 Cap., *capiat*, let him take.
 Comp., *compositus*, compound.
 Conf., *confectio*, a confection.
 Cort., *cortex*, bark.
 Decub., *decubitus*, lying down.
 Det., *detur*, let it be given.

Dil., *dilutus*, dilute.

Div. in p. *āēq.*, *dividatur in partes æquales*, divide in equal parts.

Drachm, *drachma*, a drachm.

Emp., *emplastrum*, a plaster.

Fl. or f., *fluidus*, fluid.

Ft., *fiat*, let there be made.

Garg., *gargarisma*, a gargle.

Gr., *grana*, a grain.

Gtt., *gutta*, a drop.

Guttat, *guttatim*, by drops.

Inf., *infusum*, an infusion.

Inject., *injectio*, an injection.

Lb., *libra*, a pound.

Liq., *liquor*.

Lot., *lotio*, a lotion.

M., *misce*, mix.

Mist., *mistura*, a mixture.

N., *nocte*, at night.

No., *numero*, in number.

O., *octarius*, a pint.

Ol., *oleum*, oil.

Ov., *ovum*, an egg.

Pil., *pilula*, a pill.

P. r. n., *pro re nata*, as occasion.

Pulv., *pulvis*, a powder.

Q. S., *quantum sufficit*, as much as is sufficient.

R., *recipe*, take.

Rad., *radix*, root.

S. or Sig., *sigma*, write.

Sem. *semen*, seed.

SS. or s., *semisis*, a half.

S. V. G., *spiritus vinigallici*, brandy.

S. V. R., *spiritus vini rectificatus*, alcohol.

Syr., *syrupus*, syrup.

T. i. d., *ter iri dies*, three times a day.

Tr., *tinctura*, tincture.

Troch., *trochisci*, lozenges.

Ung., *unguentum*, ointment.

m, *minimum*, a minim.

ʒ, *drachma*, a drachm.

̄, *uncia*, an ounce.

ʒ, *scrupulum*, a scruple.

Sex, temperament, and idiosyncrasy, all modify the effects of medicines. Women require somewhat smaller doses than men ; and during menstruation, pregnancy, and lactation, all active treatment, which is not imperatively demanded, should be avoided.

The time of administration modifies the action of medicines. Where a rapid effect is desired, they are to be given on an empty stomach ; on the other hand, irritant substances, as the arsenical or iodic preparations, are best borne when the stomach is full ; and the insoluble irons, requiring the gastric fluid to dissolve them, should be taken with the food.

The condition of the stomach is to be considered in prescribing medicines.

Habit diminishes the influence of many medicines, especially narcotics. People become habituated to their use, and as the habit continues the dose must necessarily be increased.

Medicines are applied to the skin, to mucous membranes, to wounds, ulcers, and abscesses, and they are injected hypodermically (under the skin.)

The application of medicines to the skin by friction, is called the epidermic method.

A classification of medicines founded on a similarity of action on the animal economy, may be divided into

Class 1. Neurotics, which are eight in number, namely—narcotics, anæsthetics, anti-spasmodics, tonics, astringents, stimulants, sedatives, spinants.

Class 2. Eccritics, six in number, viz., emetics, cathartics, diaphoretics, diuretics, blennorrhetics, emmenagogues.

Class 3. Hæmatics, three in number, viz., hæmatinics, alteratives, antacids.

Class 4. Those which act topically or locally, five in number, viz., antiseptics, irritants, demulcents, coloring agents, anthelmintics.

Under Class I. are :

1. Narcotics.— Medicines which impair or destroy nervous action. They are employed, chiefly, to remove muscular spasm, relieve pain, allay cerebral or spinal irritability and procure sleep.

2. Anæsthetics, properly speaking, include all agents which diminish sensibility and relieve pain. The vapours usually employed to produce anæsthesia, (insensibility) are those of ether and chloroform.

3. Antispasmodics are medicines that allay irregular nervous action.

4. Tonics called also corroborants, are medicines which produce a gradual and permanent increase of nervous vigor. They also promote the appetite.

5. Astringents are medicines which produce contraction and corrugation of the tissues to which they are applied by a local action.

6. Stimulants are medicines which produce a rapid and temporary exaltation of the vital functions.

7. Sedatives are medicines which diminish the frequency of the action of the circulation.

8. Spinants. Under this term are comprised medicines which are employed to excite muscular contraction and whose ultimate effect is the production of motor-paralysis.

Under Class II., Eccritics :

1. Emetics are medicines which are employed to promote vomiting ; when used merely to excite nausea they are called *nauseants*.

2. Cathartics, also termed *purgatives*, are medicines which produce evacuations from the bowels.

3. Diaphoretics, called also *sudorifics*, are medicines which promote transpiration or sweating from the skin.

4. Diuretics are medicines which excite the secretion of urine.

5. Blennorrhetics, are medicines which promote the secretion of the mucous membranes.

6. Emmenagogues are medicines which promote the menstrual discharge.

Under Class III., Hæmatics :

1. Hæmatinics. This order includes only the preparations of iron. Their use is to increase the number of blood corpuscles, and are employed in diseases dependent on a deficiency of these elements.

2. Alteratives may be defined to be medicines which produce such a modification of the nutritive processes as enables the vital principle to restore healthy action in morbid conditions of the system.

3. Antacids are medicinal agents employed to neutralize acids in the blood, and secretions.

Under Class IV., Topical Medicines :

1. Antiseptics are remedies which prevent fermentation and decomposition by a poisonous influence on the germs on which those processes depend.

2. Irritants are medicines which are employed to produce irritation or inflammation of the parts to which they are applied.

3. Demulcents are medicines which *soften* and relax the tissues, and, when applied to irritated or inflamed surfaces, diminish heat, tension, and pain.

4. Coloring agents are employed exclusively for pharmaceutical purposes.

5. Anthelmintics are medicines which promote the destruction and expulsion of worms from the alimentary canal.

CHAPTER IX.

MATERIA MEDICA AND THERAPEUTICS.—CONCLUDED.

Quinine, Its Origin, Discovery and History. The Use and Abuse of Quinine. Drs. A. K. Hill and C. A. Bryce on the Subject. Permanent Deafness as a Result of Over Doses. Its Value in Dyspepsia and Catarrh of the Stomach. Its Employment in Checking Tonsillitis, Inflamed Breasts, Pneumonia, Pleurisy and Other Inflammatory Processes. Peruvian Bark and Its Alkaloids: Quinine and Cinchonidia Specifics for Fever and Ague and Malarial Poisoning in General. The Value of Quinine in Blood Poisoning from the Absorption of Pus or Like Septic Matters.

Quinine is obtained from the barks of different species of cinchona of which there are three principle varieties, viz., pale, yellow, and red cinchona. The yellow is the richest in quinine. It was first obtained from Peru in South America, and on this account is frequently called Peruvian bark. The word *kina*, in the Peruvian language signifies bark, and its reduplicate *kinkina*, the native name of the medicine, means the *bark of barks*. This is the way the name quinine is derived. The systematic designation cinchona was applied to the species of trees producing it by Linnæus, the noted botanist, in 1742, in honor of the Spanish Countess Cinchon, wife of the viceroy of Peru, who was one of the first to test the virtues of the bark, having been cured by it of intermittent fever. On their return to Europe about 1640 they carried with them a quantity of the medicine, and distributed it to the poor. Owing to the circumstance which led to its importation it was called the "Countess' powder." Yet the indifference or the hostility of the Spanish physicians towards it, as a new remedy, prevented its general use, nor was this medicine (which at the present day is considered one of the greatest boons to suffering humanity, in the whole materia medica), accepted by the reluctant faculty until public sentiment in its favor was determined by an authoritative decision of the head of the Catholic Church. In

1643, a Spanish Jesuit, Juan de Logo, was ordered by Pope Innocent X. to examine the bark, and on the favorable report of his Holiness's chief physician, it was declared to be not only *innocent*, but *most salutary*. In 1649 or 1650, Brunacci, the Provincial of the Jesuits, brought a large quantity of it with him from America, and, a great council of the order being held at the time, a good opportunity occurred of sending it to all parts of Europe by the brethren on their return to their homes. From these circumstances it acquired the name of *Jesuits bark* or *powder*.

Cinchona trees are found originally only in South America, in the higher regions of the Andes Mountains, where they form a belt of forests extending in a southwest direction from latitude 10° N. to 19° S. and in breadth about forty or fifty miles. But are now very successfully cultivated in European and other countries. The bark is the only portion of the tree that is employed in medicine. It is obtained by stripping the trunks and branches of the trees during the dry season, and is dried by exposure to the sun, during which process the smaller pieces usually become quilled, or rolled.

While cinchona, and its alkaloids *sulphate of quinia*, and *sulphate of cinchonidia*, are admitted to be certain specifics and infallible remedies against malaria and malarial poisoning in general, and very valuable in a great many affections, the writer thinks, however, that their use is to a certain extent abused by the non-professional, at least, and would appropriately quote from Dr. A. K. Hill, in the *Medical Times*. Dr. Hill says :

“Quinine is used in enormous doses, and in every form of disease, all over the world. A dose of twenty grains is a common dose. A dose of sixty grains is often given. In other words, quinine is given *internally*, *externally* and *eternally*. It has taken the place that the lancet and calomel held half a century ago. Now it reads, when you visit your patient and find him pretty bad, give him a little quinine ; if, when you again visit him, he is a little worse, give him more quinine ; and if, at your third visit, you find the patient dying, *pour the quinine into him* before it gets too late to cinchonize him so thoroughly that he couldn't hear an earthquake were it to occur in the next room.”

“ Undoubtedly quinine has its place as a great remedy, just as calomel and the lancet are good remedies if used properly and at the right time. But quinine should not usurp the place of other and better remedies in the rôle of tonic, oxytocic, antipyretic, sedative, stimulant and antiseptic.”

As a stimulant, quinine should not be used, as this action is but temporary, soon to be followed by a depressant or sedative effect.

As a sedative, quinine has to be administered in too large doses to act effectively, and when thus given it is not reliable.”

“ The action of quinine as a temperature reducer proves of but temporary benefit, and of permanent injury, by depressing the system in such a manner that the convalescence will be very much prolonged.”

“ An agent of such general value and extensive employment as quinine, and one so potent for prompt and decided therapeutical action, is certainly liable to abuse,” says Dr. C. A. Bryce, “ and in careless hands may be productive of great harm. Quinine has its toxicological (poisonous) effects as surely as physiological and therapeutic properties. For years I have been convinced that it is too recklessly used by the profession, and my own experience has taught me to be more careful and discreet in its administration. I have so very often seen intense congestion of the nervous centers from overpowering doses of this drug, as well as other remote effects due to its impression upon the central nervous system, that I now consider well the size of the dose I shall administer. I have for a long time gradually given it in smaller and smaller doses, obtaining better results with fewer unpleasant symptoms, just in proportion as I have brought my patient gradually under its physiological and therapeutic influence.”

In small doses quinine exerts a distinct stimulant effect on the brain, increases the mental activity, and even exhilarates in some mobile (easily affected) constitutions. As some hyperæmia (overly fullbloatedness) is caused by it, the resulting cerebral or brain stimulation is probably secondary to this change in the vascular condition. In full medicinal doses, as the quinine

accumulates in the brain, a sense of fullness in the head, constriction of the forehead, more or less giddiness, even decided vertigo, may be produced. Concerning the action of quinine in very large or poisonous doses the celebrated Professor Bartholow, in his valuable Treatise on Materia Medica and Therapeutics, says : " Dullness of hearing results from considerable doses, and deafness has in rare cases been permanent, and amblyopia (dimness of sight) is frequently produced by the use of considerable doses kept up for some time. In actually toxic (poisonous) doses there is intense headache with constriction of the forehead, dimness of vision or complete blindness, deafness, delirium or coma, dilated pupils, weak, fluttering pulse, irregular, and shallow respiration, convulsions, and finally collapse and death." It is exceedingly rare to encounter such severe cerebral symptoms, however.

The preparations of cinchona are much used as stomachic tonics. In *atonic* (from weakness) *dyspepsia* they are employed, like the simple bitters, to promote the flow of gastric juice. In *gastric catarrh* they relieve that morbid state of the mucous membrane on which the increased production of mucus depends. For these purposes they may be combined with the mineral acids. The best preparation is the infusion ; the decoction, although officinal, is inelegant and faulty. The alkaloid quinine is frequently used for the same purposes, and notably in the *gastric catarrh of drunkards*, combined with acids. In these stomach disorders other and less expensive drugs like the compound tincture of gentian, tincture of quassia and tincture of columba, may be used and to better advantage.

The reader should be reminded that the preparations of cinchona are contra-indicated in all acute inflammatory states of the intestinal mucous membrane. Furthermore, if too long continued, they will set up an irritation, and *perpetuate* the troubles which they were prescribed to *remove*.

There can be no doubt in regard to the power of quinine to arrest the inflammatory process in its formative stages in numerous affections ; and tonsillitis, inflamed breasts, pneumonia, pleurisy, etc., may often be suppressed by a full dose (20 to 40 grains) when given at the commencement.

In septic diseases quinine has very important uses. Although the observations of Binz, showing the influence of quinine over septic processes, may not be applicable to the full extent for which he proposes them, but there can be no doubt of the good effects in practice of quinine in *septicæmia*, *pyæmia* (that is blood poisoning from the absorption of pus, or like septic matter), *erysipelas* or *puerperal fever*, etc. In these diseases, only large doses 5 to 20 grains every four hours are useful.

It is a valuable tonic in erysipelas and pneumonia as well as in small-pox, scarlatina, typhoid fever, measles, etc., whenever sustaining treatment is indicated. One of the principal uses of quinine is in the cure of the periodical fevers—intermittent or fever and ague, and remittent fever. It is invaluable for fever and ague, when combined with Fowler's solution of arsenic. It is very largely and successfully employed by the author for this purpose in the following prescription :

R

Sulphate of Cinchonidia,	1 ounce.
Aromatic Sulphuric Acid,	$\frac{1}{2}$ ounce.
Water,	1 pint.
Fowler's Solution of Arsenic,	6 drachms.

M. Take a tablespoonful five times a day, as follows : before each meal, and in the middle of the forenoon and afternoon. When the chills cease take only three tablespoonfuls a day, one before each meal. After the whole mixture has been taken, a preparation of iron should follow, to insure against the recurrence of the chills. Like in the following formula :

R

Ammoniated Citrate of Iron,	4 drachms.
Fowler's Solution of Arsenic,	2 drachms.
Water,	4 ounces.

M. A teaspoonful to be taken *after* each meal until the entire mixture is taken.

The mode of using quinine for the cure of intermittent fever may be formulated as follows :

The antipyretic is nearly equally effective whether administered in the interval or during the seizure.

If time is an element of importance, no delay is necessary in order, to give the remedy in the stage of apyrexia.

To save the suffering and exhaustion of the febrile movement, the attack should be anticipated, and, if possible, prevented.

As the maximum effect of the quinine is attained in about five hours after being taken, it should be administered this period of time, at least, before the expected paroxysm.

As the elimination of quinine takes place with considerable rapidity, the maximum curative effect is obtained by the administration of the whole amount required in a single dose, rather than by a succession of small doses. (Essay).

The unpleasant cerebral effects of quinine are lessened or prevented by the simultaneous administration of diluted hydrobromic acid.

CHAPTER X.

GENITO-URINARY TRACT.

Woman's Woes—Menstruation. The Proper Time for the Menses. The "Change of Life" or Menopause. Causes and Utility of Menstruation. The Bible and the Mosaic Law on the Subject. The Source of the Menstrual Fluid. Disorders of Menstruation—Headache, Absence of Menstruation, Painful and Excessive Menstruation. Advice to Mothers in Regard to their Daughter's First Menstruation. The Causes for the Non-appearance or Cessation of the Menses. The Use of Female Pills. Chlorosis or Green-Sickness in Young Girls—Its Causes and Treatment. Sitz or Hip Baths and how to take them. How to Relieve Painful Menstruation. Vicarious Menstruation and its Treatment.

Of the many misfortunes that women have to bear, none causes so much complaint, as the regular monthly ordeal, through which they have to pass at the time of menstruation. Many women look forward to this time with dread, and it is a constant menace to their peace of mind. No wonder the old philosopher used to exclaim, "Thank God, I am not a woman."

What are the menses? Every twenty-eight days or lunar month each healthy woman has what she usually calls her "courses." This consists of a discharge from the womb of a mucosanguineous (bloody) fluid, varying in amount in different women, lasting usually from two to four days. This flow is known to physicians as Menstruation or Catamenia, but most women speak of it as their "monthlies," "periods," "menses," "courses," or "flows." In temperate regions healthy girls begin to menstruate at about the twelfth to the sixteenth year and the flow should occur regularly every twenty-eight days, to the time of the menopause, at from forty to forty-five years. This is the "change of life," or the time at which menstruation ceases. In reference as to when a young girl should menstruate, it is too often the belief that when a girl has arrived at the age of twelve or fourteen years, and especially if there is some mammary development, she should

promptly menstruate ; but while the development of the mammas or breasts are a good criterion that the womb and ovaries, the chief organs of reproduction are present, it is not the only and certain reason why menstruation should then begin, there are other physiological circumstances necessary to this function—like the strength and development of the body in general, a sufficiency of blood in the system, etc.

THE CAUSES OF MENSTRUATION.

The most eminent physiologists are not in accord regarding causes and utility of menstruation. It is a singular fact that in the whole animal kingdom womankind is the only animal that are subject to this flow with any regularity. The females, of a few of the lower animals have indications of this function, but in none is it marked. In old superstitious and biblical days it was thought that women, through the sins of Eve, had need of purification, and that this secretion was given to them as a purifying process ; hence during the flow and for a certain number of days thereafter they were considered "unclean" and the old Mosaic law had stringent regulations on the subject.

In recent days it has been explained and most eminent physiologists have agreed, that every twenty-eight days the ovaries develop generally one, (sometimes two or more), mature, ripe ova, which are fit for impregnation, and that at these periods the whole pelvic region is subject to a congestion or overflow of blood caused by the initiation and excitement of the ovum pressing on the tissue of the ovaries, and that finally this ovum is discharged through the fallopian tubes into the uterus accompanied by a flow of blood from the ovaries and perhaps from the lining membrane of the womb, thus relieving the congestion. Women can usually predict a few days ahead that their menses are about to appear by a feeling of fullness in the abdomen, etc.

DISORDERS OF MENSTRUATION.

The function of menstruation being a natural one should be devoid of all pain and suffering, but unfortunately such is rather

the exception than the rule. So commonly is it accompanied by annoying disorders, such as headache, or pain in the small of the back and groins, that women in speaking of menstruation usually refer to it as "being unwell." They expect to be sick at this time, and unless the disorders are severe they generally bear their suffering with fortitude and in silence, not even consulting a physician, deeming it a matter of necessity. There are, however, a number of disorders of menstruation so severe as to be constantly brought to the physician's attention, and so frequent as to form a large part of the practice of physicians who make a specialty of diseases of women, they are usually classed under the following three general heads :

Amenorrhœa :—Absence of menstruation. *Dysmenorrhœa* :—Painful menstruation. *Menorrhagia* :—Excessive menstruation.

AMENORRHŒA.

This condition is divided into two distinct classes : 1. *Absent menstruation*, in girls that have never menstruated ; and 2. *Suppressed menstruation*, where the flow, after having been established, ceases to appear at its regular time.

ABSENCE OF MENSTRUATION.

Physicians should advise mothers to carefully watch over and consult their daughters during the fourteenth and fifteenth years, instructing them regarding the nature of the menses and what they may expect. Frequently young girls undergo much mental worry on the appearance of their first menses, not having been informed that it is a healthy function. They are mortified or frightened at such an unusual phenomenon, looking on it as some terrible disease, and yet are too modest to speak of their trouble. If the menses do not appear when the girl is of proper age she should be carefully guarded to see that her health does not suffer in consequence. Non-appearance of the menses may be due : First, to inactive conditions of the generative organs. Second, as a result of an anæmic condition of the system. Third, very rarely, to

malformation of the organs. In the first case the girl has reached the menstrual period, but the menses do not appear. Her general health is good but she feels periodically an aching sensation in the groins, and the small of the back ; is subject to severe throbbing headaches and depression of spirits, languor, uneasiness, and usually derangements of the stomach and bowels. In these cases the treatment should be mostly hygienic. The patient should take plenty of out door exercise, such as walks in the open air, and fresh air rides if possible, dancing, etc. The bowels should be kept open by mild laxatives. To promote activity of the generative organs, the writer would suggest a course of mild tonics, of bitters and iron, and to stimulate the pelvic organs in general a Hooper's Female Pill (which can be obtained at any drug-store) should be given on going to bed, for a week previous to the period that the symptoms before mentioned are expected. In this connection it is proper to state that only evil can result from the use of direct emmenagogues (medicines producing a flow of the menses) when amenorrhœa is due to phthisis (consumption). The cessation of the regular menstrual flow in such cases is conversative and should not suffer interference, but tonics which are always the safest emmenagogues can be administered. Care should always be observed during the menstrual periods in regard to proper and sufficient clothing. The feet should be kept dry and warm. Like care should be taken in regard to drinking excessively of water or too cold water, inasmuch as there is danger of checking the discharge and thus laying the foundation for various serious womb trouble.

CHLOROSIS.

Non-appearance of the menses is frequently the result of a disease of the general system, called chlorosis or "green sickness," being peculiar to young girls about the age of twelve to sixteen years the period at which they begin to menstruate. It is owing to anæmia, the result of deficient nutrition, either from insufficient or innutritious food, or more commonly from disorders of the stomach or assimilative system. It is characterized by a deficiency

of the red corpuscles in the blood or by a perversion of the quality of the blood itself. Girls afflicted by this disease can often be singled out by their yellow, sallow complexion; they are languid, easily fatigued, usually melancholic. Generally, they have a poor appetite, and eat but little, and the bowels are usually constipated; the menses do not appear and they are subject to severe periodical headache. Obviously it is useless to try to establish the menses until the blood and digestive derangements are first corrected, although some physicians undoubtedly err in supposing that the derangements of the general health are due to absence of the menses, and their endeavors are directed to establish the menstrual flow by administering active uterine excitants. Such a course can only be attended with disastrous results. The patient should be surrounded with favorable hygienic conditions such as open air exercise, plain nutritious diet, regular hours for sleep, absence of corsets. She should be induced to exercise every day regularly in dry air even if it be against her inclination. She should walk in the open air, ride, (especially on horse-back), row, or take any other moderate exercise according to her abilities. Sitz or hip baths should be used. (In several places in this book Sitz baths are advised. A Sitz bath is another name for a hip bath; it may be either hot or cold, but whenever referred to here, hot Sitz baths alone are intended). Any ordinary tub or vessel in which the patient can sit will answer the purpose. The water should be heated as hot as can be borne. The temperature of the room must be warm so that there is no chill in the air and the patient should sit in the hot water from ten minutes to a quarter of an hour. She should then be rubbed dry with a rough towel. It is well to take Sitz baths before retiring at night, if taken during the day the patient should lie in bed, well covered up, for an hour after the bath.) The food must be nutritious but easy of digestion. To increase the blood and improve the general health, iron in some form especially the pill of the carbonate, or Bland's pills, bitter tonics, and if there is constipation aloes, the latter in the form of Hooper's Female pills should all be given. Under this treatment the general health of the young girl will soon improve and the menses become established.

DYSMENORRHŒA.

Many women never pass the menstrual period without pain more or less distressing. When these pains are slight and of short duration, they usually do not cause uneasiness and are not brought to the physician's attention. When severe, the condition is termed dysmenorrhœa, signifying painful or obstructed menstruation. The most usual severe form of this disease is neuralgic, and usually occurs in women of a nervous temperament. It may also be caused by displacement or congestion of the womb. When the physician is called during these attacks his efforts should be directed to temporary alleviation of the pain. Relax the system by means of hot hip or foot baths and administer anodynes like laudanum and ether or morphine, preferably the latter, administered hypodermatically. A hot fomentation of hops should be made by boiling a handful of fresh hops in a quart of water, saturating and squeezing from this flannel cloths, placing them on the patient as hot as can be borne. Applying these fomentations over the womb will often give temporary relief. Between the menstrual periods efforts should be made to prevent a recurrence of the disease. The patient should be directed to take weekly a hot Sitz-bath, and two or three during the few days just previous to the expected period. In addition, to promote a free flow of the menstrual fluid, the following emmenagogue pill, one to be taken before meals, for a week before the expected time, is beneficial, namely :

R

Ergotine,	1 gr.
Fer. Sulph. Exsic.,	1 gr.
Ext. Hellebore Nig.,	1 gr.
Aloes Soc.,	1 gr.
Ol. Savine,	$\frac{1}{4}$ m.

Which can be obtained, ready-made at any apothecary store. If these means fail, the painful menstruation must be caused by some displacement or congested state of the womb, then the sufferer should place herself under the care and treatment of the most skilled physician, who makes a specialty of diseases of women.

MENORRHAGIA.

Menorrhagia is a profuse or excessive menstruation, and may in fact, constitute uterine hemorrhage. The causes of this disorder of menstruation are numerous and varied. The same name applies to too frequent menstruation. Among the causes of this disorder of menstruation may be laceration of the neck of the womb, vegetations of the lining mucous membrane of the womb, cancer and fibroid tumors. The excessive loss of blood may so deplete and weaken a woman that her condition becomes precarious from the loss of blood, aside from the very annoying features of inability to attend to her domestic duties or enjoy the pleasures of society as to mar her happiness greatly and make life burdensome, and attention to the matter becomes imperative. The hygienic and dietetic measures are important factors in this affection. The woman should remain as quiet as possible during these flows, perhaps assume the recumbent position. Abstain from all stimulating and hot drinks; eat substantial and easily digested food, avoid all excitement, and refrain from lifting or elevating the arms above the head as much as possible.

Where this disorder is brought on by vegetations or perhaps by a small portion of retained placenta after confinement or abortion, the proper treatment consists in curetting or scraping the internal lining of the womb by means of a blunt curette; any physician of ordinary intelligence can perform the operation it being unattended with pain or danger.

Intra-uterine injections of a weak solution of nitrate of silver (lunar caustic), or other astringents may likewise accomplish good results. The excessive hemorrhage may also proceed from the ovaries and in that event can readily be cured by large doses of bromide of potassium. The fluid extract of ergot, gallic acid, powdered opium and acetate of lead; Monsell's iron or the tincture per sulphate of iron, are all capital remedies in this affection. Astringent injections per vagina are also of great utility.

During the intervals iron and bitter tonics will most generally be required.

VICARIOUS MENSTRUATION.

By vicarious menstruation is meant when the menses become suppressed from some cause or other and the periodical flow is discharged from another part than the genital canal. It may thus take place from the nose, throat, ears, the rectum, an ulcer or elsewhere. This trouble can generally be readily corrected or cured by attention to hygienic and dietetic measures in conjunction with tonics and laxatives.

CHAPTER XI.

GENITO-URINARY TRACT.

Leucorrhœa or the "Whites." Its Causes, Source and Evil Consequences. Backache, Loss of Appetite, and General Exhaustion Sure to Follow its Neglect. Leucorrhœa often the Cause of Inducing Gonorrhœa in the Male. A Frequent Factor of Domestic Unhappiness and Misery. Catarrh of the Womb as a Cause of Leucorrhœa. Successful Home Treatment. Leucorrhœa in Children—Its Origin, History and Infallible Treatment.

Leucorrhœa, "fluor albus" or the "whites" is a discharge of a whitish, more or less viscid liquid from the mucous membrane of the vagina and uterine cavity which may be profuse, or scanty in quantity, and be continuous or only precede the menses a short time or perhaps immediately follow the same for a few days, and the woman may be quite free from the affection during the intervals. "In such instances it is dependent on a slight congested state of the uterus merely, and needs no further treatment other than cleanliness and mild injections, but when it is very profuse, aggravated, constant and perhaps somewhat of a purulent nature, and fetid, it is very exhausting and debilitating to any woman and demands the most careful attention, and very judicious constitutional and local treatment. Leucorrhœa, strictly speaking, is not a disease of itself, but merely symptomatic of some disorder or derangement of the uterus or its appendages. But its existence for any length of time if neglected, is sure to be followed by a derangement of the system in general. A train of symptoms accompany this disorder like paleness, pain, sometimes intense, in the back, legs and loins, impaired appetite, chilliness, with general exhaustion are sure to follow, and if long continued these symptoms will be greatly aggravated, with weight in the loins and lower part of the abdomen, great lassitude, often pain in the stomach, sour eructations, headache, and in extreme cases dizziness, palpi-

tation of the heart, excessive coldness of the feet, and despondency. Leucorrhœa is a source of great discomfort, inconvenience and annoyance to any woman of cleanly habits, aside from the displeasure it will so often occasion to a loving husband, and while it is so frequently a fruitful source of inducing gonorrhœa in the male, thus causing unhappiness and misery which often leads to strife and perhaps separation. The writer would most urgently enjoin upon all thus afflicted to avail themselves of every means offered them, in order to become cured of this troublesome disorder.

Causes.—Among the numerous causes of leucorrhœa may be mentioned, ulceration of the mouth of the womb ; chronic inflammation, perhaps of a catarrhal nature, of the mucous membrane lining the internal surface of the womb ; the various displacements of the body of the womb, like prolapsus, versions and flexions of the organ ; congestion of the parts, etc. It may also be due to a weakened or debilitated state of these organs. Neglected or imperfectly treated gonorrhœa of the womb may leave a gleet discharge, either of the womb or the vagina or both, which may exist for years, unless properly attended to. Leucorrhœa may be limited to the vagina and depend upon an inflammation of this tract alone. This form admits of ready cure under a course of proper injections. The most frequent source of this affection is indiscretion, by exposure and errors of life during menstruation, and improper or injudicious sexual intercourse. Mothers should enjoin upon their daughters to observe the laws of hygiene in regard to exposure to dampness and cold, diet, and scrupulous cleanliness, instructing them to use the utmost care as to keeping the feet warm and dry during the menstrual period especially, and avoid sitting on damp places ; and to guard against certain moral emotions which also require regulation, if the female would escape this distressing affection—the mind must be kept pure and free from improper associations.

Treatment.—To be effective the treatment of leucorrhœa must be directed to the cause of the disorder, and if you succeed to remove that, the discharge will cease likewise. If the complaint has existed for any length of time and the system, in general weakened or depraved, tonics must be administered to invigorate

and strengthen the system. In such cases iron, quinine in tonic doses, the vegetable bitters, cod-liver oil or the compound syrup of the hypophosphites are the chief internal remedies. Alum is a cheap and useful injection, it may be combined with sulphate of zinc (white vitriol) and borax; the subnitrate of bismuth suspended by mucilage is an excellent injection, but is costly; combined with the fluid extract of hydrastis its value is enhanced. Tannic acid or infusion of white oak bark is an excellent application, but stains clothing. Carbolic acid with equal parts of glycerine diluted and used with care is a good deodorizer when the discharges are foul. A few drops may also be combined with the preceding injections. The tincture of per-sulphate of iron is perhaps the most valuable injection of all but as it stains the clothing it must be used with care. The following preparation has been largely employed by the writer with the greatest success and the happiest results, as an injection in this complaint, namely :

R

White Vitriol,
Sugar Lead, of each one ounce.
Rain Water, 1 pint.

Mix.

After a thorough injection with luke-warm water, take a teaspoonful of this mixture with half a pint of water and inject into the vagina, keeping the legs together so that the whole of the mixture is retained for a few minutes; use once a day. The same injection will also cure any gonorrhœa if used in time. Intra-uterine injections of peroxide of hydrogen, nitrate of silver solution, etc., must always be made by a skilled physician and in aggravated cases I would advise the sufferer to avail herself of such facilities; as a good physician can readily improve her condition and perfect a cure.

[NOTE. *Infantile Leucorrhœa*.—Children of all ages are liable to suffer from a discharge from the mucous glands of the vulva. Occasionally the disease spreads up the vaginal canal; giving rise to a profuse purulent or muco-purulent fetid discharge, with heat and pain during micturition and excoriation of the surrounding parts. Care must be taken not to mistake this

disease for gonorrhœa produced by infection, though I am unable to point out any diagnostic signs by which the error may be avoided ; for I have seen instances where the inflammation has been so intense that the appearance has very much resembled that caused by violence, and yet it has been impossible for anything of the kind to have taken place. The history must be therefore thoroughly inquired into, and the cause surmised. The nature of the child's constitution will sometimes throw light on the nature of the discharge, inasmuch as strumous subjects are especially apt to be affected with leucorrhœa, particularly during the period of teething, or if they suffer from neglect of cleanliness, or from the irritation of threadworms or pinworms in the rectum, or from constitutional debility. Occasionally the discharge seems to prevail as an epidemic. The virus is highly contagious, and its application to the eyes gives rise to violent inflammation of these organs. It has been doubted whether the discharge is communicable from the child to the adult male or female ; for unfortunately cases of infantile leucorrhœa have led to false accusations and much misery. The treatment of infantile leucorrhœa must be perseveringly carried out, or the disease will last for months. Attention to cleanliness, frequent sponging with an astringent, (like the above, but much weaker), the use of cold hip baths containing a little alum, and mild alteratives or laxatives will be needed. The diet should be plain but nourishing ; and tonics — especially of quinine and iron will always be useful.]

CHAPTER XII.

GENITO-URINARY TRACT.

Gonorrhœa in the Male, its Cause, Origin and History. Women Frequently Give Gonorrhœa without Having the Disease Themselves—through Leucorrhœa. Professors Taylor and Bumstead on the Subject. Safeguards Against Gonorrhœa. The Great Need of Cleanliness—Symptoms—Treatment. Danger Resulting from Improper or Very Strong Injections. Serious Consequences from the Excessive Employment of Copaiba. Many Invaluable Receipts.—Complications — Sequela — Inflamed Eyes — Swelled Testicles—Buboes—Strictures, etc.

Gonorrhœa, from the Greek *gone*, semen, and *rheein*, to flow, (because erroneously supposed to consist of a flowing off of semen), may be defined as an inflammation of the urethra in the male and of the vagina, vulva, urethra or uterus in the female, depending upon some local irritation for its development, the most common cause being contact during sexual intercourse with purulent or disordered secretions from the genito-urinary tract. Gonorrhœa has its origin in the remote ages and the reference to "the uncleanness of men in their issue," in the XVth chapter of Leviticus, most probably refers to the disease. According to Astruc, the disease did not appear until 1545, and this reference of the Bible was to what is known as urethritis (inflammation of the urethra—the passage which leads from the bladder). The disease has been known under various names but in Medicine the word gonorrhœa is very generally employed, though etymologically, the term is incorrect. Some medical writers have endeavored to substitute for the name, the word *Blennorrhagia*, coined for the purpose, but the new name has never come into general use. The old Saxon word "clap," which is still the vulgar and popular name has been tabooed by most medical writers.

In late years the advance of microscopic investigation has shown that the pus and pus-cells, discharged in the mucus of gonorrhœa contain a vegetable product called, "Gonococcus," by their discoverer, Neisser. Some writers state that only mucus

containing these peculiar gonococci are the cause of the disease. It is, however, claimed by other writers that these gonococci are the *result*, not the *cause* of the disease, and that they can only live on mucous membranes afflicted by it.

Two of the most important questions in the study of gonorrhœa are its cause and origin. So much often depends upon a clear understanding of how a given case of gonorrhœa originated that an explicit exposition of the subject is demanded. Gonorrhœa in a male is sometimes derived from a female thus suffering, but such cases are much less numerous than those in which it arises from other sources. Ricord's proposition, that "*women frequently give gonorrhœa without having it themselves,*" may, I think, be unreservedly accepted as an axiom, and its importance cannot be over-estimated. Of it Fournier says: "The result of my investigation convinces me that the opinion of Ricord is the only one which can be accepted as conforming to the facts of daily observation." It seems to me, however, that it falls below the truth. In *my* opinion he should have said '*most* frequently.' Fournier further thinks that to one case in which gonorrhœa originates in gonorrhœal pus, there are three which have a different origin. Dr. Robt. Taylor, Professor of Dermatology, at the New York Post Graduate Medical School, in his excellent work entitled "*Venereal and Skin Diseases,*" says: "Of thirty men affected with true gonorrhœa, in but five did I find gonorrhœa in the women with whom they had cohabited."

By far the majority of cases of this disease originate in coitus with a woman suffering from some form of purulent discharge from the genital tract. A consideration of the frequency of these discharges in the female explains the great frequency of gonorrhœa in the male. The gonorrhœa which originates in these discharges may be mild in character or of great severity and obstinacy.

Coitus (sexual intercourse) just before, during, and after menstruation is very frequently followed by gonorrhœa, which is usually of a severe type. Many authors speak of the severity of the affection thus acquired, and Diday dignifies it by the name "*urethrorrhœa,*" (simply a flow from the urethra). Certain it

is that the course of such a gonorrhoea may be as severe and protracted as it is when it originates from acute gonorrhoeal pus. In this manner many husbands who have for years cohabited with their wives with impunity have contracted the disease, and the same often occurs in the unmarried.

Gonorrhoea sometimes occurs under peculiar circumstances, which are clearly given by Prof. Bumstead, of New York, who says: "I am constantly meeting with cases in which one or more men have cohabited with impunity with a woman, both before and after the time when she has occasioned gonorrhoea in another person, or less frequently in which the same man, after visiting a woman for a long period with safety, is attacked with gonorrhoea without any disease appearing in her, and after recovery resumes his intercourse with her and experiences no further trouble. The frequency of such cases leaves no doubt in my mind that gonorrhoea is often due to accidental causes and not to direct contagion."

"Though husbands somewhat exceptionally contract gonorrhoea from wives free from the disease, in the vast majority of cases, however, their partners suffer from uterine and vaginal discharges, which they escape. The same is often true as to the lover and mistress. The most rational explanation of this immunity of the males is that frequent exposure to the irritant secretions has produced what the French term *acclimation*. Thus it is that with married women, and in unsanctified cohabitation the favored, but luckless lover, often comes to grief for the want of this indefinite, though none the less real, factor in the case, *viz*: *acclimation*. A clear and positive statement of this fact will often spare an innocent person the suspicion or accusation of having gonorrhoea and of communicating it." Professor Taylor in his clinical lectures illustrates the baneful effect of the theory that gonorrhoea is always due to a specific virus by the details of one of the many sad cases which have come under his observation. One of these cases is as follows: "A married man, twenty-six years old, returned after a month's absence and cohabited with his wife. In two days he noticed the usual symptoms of acute gonorrhoea, and consulted a physician, who informed him he was

suffering from that disease. To the patient, being incredulous, the physician fortified his position by quoting from the work of a prominent author from whose teachings he had gained his belief. Such was the patient's anger and disgust that he immediately confronted his wife, who was at the full table of a large boarding house, and in vile and blasphemous language accused her of infidelity and of giving him a foul disease. Amid shame and distress of mind the wife indignantly spurned the charge, but to no effect. The husband left the house and went elsewhere, but took occasion to inform his wife's relatives of the state of affairs. At this time a second visit to the physician resulted in a more positive asseveration of his opinion. Such was the desperate state of affairs that the husband consulted a lawyer with a view of getting a divorce. At this juncture the wife's brother insisted that her husband should accompany her to my office, with the view of settling the matter. It was a memorable interview with the sullen and angry husband and the indignant and outraged wife. The husband's first question was, "Could a man contract gonorrhoea from a wife who was not so affected?" To which I replied emphatically, "Yes." I then went over with him the various sources of origin of gonorrhoea, and instanced cases which I had met in which groundless suspicions had been entertained between husband and wife. When I came to inquire into the circumstances of his case, I learned that his wife had sometime previously been the subject of an operation upon the uterus, and that she suffered from leucorrhoea. This was sufficient to clear her of all suspicion; but when I mentioned the fact that the menstrual fluid sometimes caused severe gonorrhoea, the wife eagerly and triumphantly said to him that he had forced her on that night to intercourse in spite of her waning menstruation. The husband was chagrined and humiliated. Later on, domestic happiness was restored."

A still sadder case was published in an old French work on venereal diseases: "A young man, after having lived with a young girl for some years, married her. Some months after he was compelled to take a journey of some distance, and while travelling was attacked with gonorrhoea. He consulted a phy-

sician, and informed him that he had never had connection with any woman but his wife. The physician laughed and made a sarcastic reply. Some days after, when the testicle swelled, the latter informed him that if his wife was virtuous he must have had "*une affaire*" (sexual intercourse) with other women. The young man wrote to his wife an indignant and passionate letter and then blew out his brains. The unfortunate woman, who was found to be free from disease, miscarried and died."

Fournier tritely remarks that a man *gives* himself the gonorrhœa oftener than he *receives* it. Professor Taylor says that this is true and remarks: "We very frequently see married and unmarried men with an urethral discharge which, originates in some old and latent lesions of some portions of the urethra, which under certain conditions, have become inflamed. These lesions may be of a trifling or severe character, such as local thickening, a slight stenosis (narrowing) of the canal, stricture, granulations, and polypoid growths. It can be readily understood that men with urethræ thus damaged, are prone, the proper cause existing, to gonorrhœa, whether or not the females are suffering from a discharge. These causes are sexual excess, high living, the abuse of stimulants, prolonged horse-back riding, etc.

Though it has been claimed that intense and prolonged sexual excitement without completion of the act has been followed by gonorrhœa, it is rational to suppose that in such a case there was pre-existent damage to the urethra.

Gonorrhœa is one of the few diseases that is much more severe in men than women, and male cases are more common, owing to the peculiar unwritten moral laws broken by men without restraint. The passages affected by the disease in woman are of larger size, the urethra (when it is affected) is much shorter, hence the disease does not inconvenience and aggravate the female as it does the male patient. In addition, the parts affected are much more within the reach of the physician's treatment, for with women astringent injections, which cure the disease so readily, can be made without danger of stricture, etc., which is not the case with men. Notwithstanding the ease with which it can be cured in women, many dissolute women who contracted it,

suffer it to run on for months and thus become its prolific distributors. The fact that it gives women, as a rule, so little pain and trouble, explains the reason why they so frequently allow the disease to run on, or fail to avail themselves of proper and timely treatment. The writer embraces this opportunity to exhort all women thus afflicted to become *clean* and cured of this loathsome disease, as it may entail endless woe and misery upon others than themselves. This also applies to those who are suffering from leucorrhœal discharges. As prevention is always better than cure, I would urgently recommend all women to supply themselves with good family syringes, or what is still better, if means afford, a douche-bag holding at least, three quarts of water, which can be obtained of the writer. It is well to use a douche often, especially just after the menstrual period, as nothing can be so conducive to cleanliness and thereby to good health than this. I would also especially recommend as a prophylactic (preventive) against the contagion of gonorrhœa that the person having unsanctioned sexual intercourse, use immediately ablutions of warm water after coitus. Urination practiced at the same time likewise assists in removing from the urethra whatever discharges, may be present, and thus lessen the liability of contracting the disease. (This applies especially to males.)

Gonorrhœa manifests itself to the male patient in five or seven days after the exposure or impure contact. In exceptional cases the time is shorter or longer, and good authority states that cases are known which develop in from twenty-four hours to fourteen days; however, five to seven days is the usual time. At first a slight pricking, teasing sensation is noticed at the orifice of the glans penis, which, in the course of a day becomes so intense as to be exceedingly unpleasant. The lips of the orifice swell and are glued together with a slight viscid secretion. Thus far the urethra is dry. The second day a milky white mucous discharge appears, at first in small quantity, merely a drop at the end of the gland, afterwards more profuse. This discharge becomes more abundant, thick, yellow (and in some cases greenish), for the period of several days. It dries on the linen with a stiff, yellow stain, and is liable to soil both the underwear

of the patient and the bed linen. This discharge is accompanied with inflammation of the soft tissue of the penis, which becomes much larger than its natural size. After the course of a week, the disease will have passed its acute stage and will gradually decrease in intensity, whether treated or not. The inflammation subsides; the discharge grows less, and the patient is much encouraged and may think he will recover without the aid of medicine or treatment. Such, however, is rarely the case. On the contrary, the discharge usually continues indefinitely and finally becomes chronic and develops into what is called Gleet, which has more serious results and is much more difficult to cure than the original Gonorrhoea. Gonorrhoea is not a very painful disease, and frequently young men express themselves that "They would as soon have a case as a bad cold." In many instances, the only actual pain experienced is in the passage of urine and in chordee.

Treatment. The passage of the acid urine through the inflamed gonorrhoeal urethra causes a hot, scalding pain, so that to the gonorrhoeal patient passing water is usually a severe ordeal. It can be mitigated by the administration of mild alkalies internally, such as half a teaspoonful of common baking soda dissolved in water and drunk before each meal. The patient's urine should then be tested with litmus paper until it becomes nearly neutral, when the soda should be discontinued.

Chordee or painful erection of the penis is said to be the most painful sensation connected with the disease. It is not present in all cases; some afflicted persons have it often and severely, others rarely and mildly. It is caused by the stretching of the inflamed erectile tissue due to the erection of the penis during sleep. The pain is sudden and severe, and the patient often springs from his bed in sudden paroxysms of pain. Temporary relief is usually found by inserting the penis in a basin of cold water which relaxes the tissue. The pain is apt to recur again under the influence of warmth, say as soon as the patient has returned to bed and fallen asleep, and this may recur several times during the night. Patients should be warned against forcibly "breaking the chordee" by straightening the penis by

force, as this practice is liable to cause hemorrhage and consequent stricture. A pill of camphor, one grain, and opium one-half taken before retiring, or a dose of ten grains or more of bromide of potassium will have a tendency to allay this sexual excitement and prevent its occurrence.

It has been said that indirectly gonorrhoea causes more deaths than syphilis, not from the disease itself but from injudicious treatment, bringing on urethral stricture or some other complication. From the nature of the disease, patients are anxious to have as speedy a cure as possible, and they importune the physician to stop the flow of secretion in a few days. If the physician yields to the entreaties of the patient and injects a strong astringent, the result is that the flow is checked, but the case is usually changed to stricture, a disease that is much more serious than gonorrhoea and excruciatingly painful. Or, perhaps the patient does not consult a physician, but surreptitiously injects one of the many patent articles advertised "to stop the flow in twenty four hours," which usually results in the most distressing termination. Too much care can not be taken in injecting astringents in cases of gonorrhoea. When a case of gonorrhoea is presented, the patient should first be given a mild laxative, as constipation, which usually accompanies cases of gonorrhoea, very much aggravates the disease. The following prescription is useful.

R Fluid Extract Cascara Sagrada, 1 ounce.
 Simple Syrup, 1 ounce.

Mix. Dose, a teaspoonful, increased every morning for five days, or until the bowels move freely. Then the patient should be directed to provide himself with a bag to contain the penis, and prevent the discharge from soiling the clothing and bedding. Bags manufactured expressly for the purpose and known as "gonorrhoea bags," are sold by druggists, but an excellent substitute can be made by cutting off the toe of an old stocking, which can be retained in place by pinning with safety pins to the drawers in such a position as to hold the penis. The bag should be lined with absorbent cotton to catch and retain the discharge. Do not close the mouth of the penis with cotton, or otherwise, as that is very injurious irritating the parts and greatly aggravating the disease.

Nothing ought to be done towards checking the discharge until after the acute stages of the disease have passed ; that is, until six or seven days. The canal of the penis should be syringed out, however, with warm water as often as three times a day. As the patient usually thinks he should be using some medicine, I very often give him the following prescription.

R

Subnitrate of Bismuth,	$\frac{1}{2}$ drachm.
Water,	8 ounces.
Carbolic Acid,	5 drops.

Mix. Warm to tepid heat and use as an injection. Shake well before using.

The subnitrate of bismuth has a tendency to coat the folds of the canal and to mitigate the disease. It can do no possible harm but it must be remembered that the above prescription is not intended to stop the flow of mucous but merely to lessen the heat and inflammation. The patient is also cautioned regarding the acrid and poisonous nature of the discharge and instructed to carefully cleanse his hands after handling the parts affected. Trouble can readily be prevented by a careful washing ; the mucous being very soluble in water. The patient should be particularly warned not to rub his eyes with unclean hands, and to see to it that none of the mucus be accidentally introduced into the eyes, as it causes a most distressing affection of the eyes, called gonorrhoeal conjunctivitis, which is almost sure, to destroy the sight.

As has been said, gonorrhoea has a stage of about a week, sometimes longer, of acute inflammation, and nothing should be done to check the discharge until at least a week after the disease has run. Nothing causes as much consequent troubles like swelled testicles, strictures, buboes, etc., as injudicious injections during the inflammatory stage. When the discharge begins to lessen, when the acute stages are over, then treatment proper should begin. It is usually a very simple matter to stop the discharge of gonorrhoea. Any astringent, as sulphate of zinc with acetate of lead, or tannic acid, injected even in an acute case of gonorrhoea, will surely stop the discharge in a few days and the many mixtures, which are usually simple astringent solutions, advertised "to stop

the flow in twenty-four hours," approximate the truth. But the injection of an astringent into the canal congested by the disease, will, in a majority of cases cause such a sudden contraction of the tissue as to rupture it, very slightly, and perhaps unnoticeably, it is true, but still enough to almost invariably result in a stricture. A preparation known as Lloyd's hydrastis, though not so quick, gives good results from its use, and is very much employed in stopping the discharge. It acts by stimulating the mucous membrane to the performance of the normal functions, and to throw off any disease or abnormal condition to which they may be subjected. For this purpose, the patient after the acute stages have passed, should use the following prescription :

R

Lloyd's Hydrastis,	4 ounces.
Aqua (water),	6 ounces.

Mix. Use as an injection, three or four times a day.

The prescription is colorless, and is non-irritating. When first used, if the parts are tender, the sensation of cold would be unpleasant ; hence it is better to warm the solution to a tepid heat, (blood temperature), before injecting, but after a few days use, the parts will become so much better that it can be injected at ordinary temperature without warming and without causing any unpleasant feeling at all.

There is now sold at almost all reliable drug stores, a pill for the cure of gonorrhœa called Wyth's sugar-coated compressed gonorrhœa pills, the formula of which is as follows :

R

Powdered Cubebs,	1 $\frac{1}{4}$ grs.
Balsam of Copaiba (solid),	$\frac{1}{4}$ gr.
Ferri Sulph Exsic.,	$\frac{1}{4}$ gr.
Turpentine (Venet.),	$\frac{1}{4}$ gr.

Dose. One pill three or four times a day, which can quite safely be taken early in the complaint.

While the writer would not entirely discard, or reject, the use of the balsams as specifics in the treatment of gonorrhœa, he nevertheless does not encourage the too excessive, or reckless,

employment of them, especially the balsam of Copaiba, and would hereby quote Prof. Robert Bartholow's opinion on the subject :

“ Very serious injury may be done to the gastro-intestinal canal, and to the kidneys, by the use of this agent (balsam Copaiba) in large doses. The author has known gastro-intestinal catarrh to persist many months after a course of copaiba, and he has reason to believe that desquamative nephritis and fibroid kidney have resulted from its free administration for a lengthened period. While small doses of balsam will increase the gross amount of urine, and of the solid contents, large doses will actually cause a diminution in the amount both of water and solids by setting up renal irritation.”

The following mixture will be of advantage in a typical case of gonorrhœa :

R

Bromide of Potassium,	℥ss,	(one-half ounce).
Oil of Cubebs,	℥ss,	(one-half ounce).
Oil of Sassafras,	gtt xii.	(12 drops).
Syrup of Gum Arabic,	℥ii,	(2 ounces).
Water added,	℥vi,	(6 ounces).

Desert spoonful every four hours.

At the same time the injection may be changed to one containing an insoluble powder, which by coating the urethra and partially protecting it from urine, and also by its mechanical influence in constricting the dilated vessels by keeping the walls separated, often serves greatly to reduce the discharge. The following formulæ are the best among a great many :

2. R

Bismuth, (subnitrate),	one drachm.
Glycerine,	two drachms.
Rosewater, added.	four ounces.

Mix.

3. R

Bismuth, (subcarbolate),	one drachm.
Mucilage of Gum-arabic,	one-half ounce.
Rosewater,	three-and-a-half ounces.

Mix.

4. R Zinc, (acetate), one scruple.
 Tannic Acid, one scruple.
 Rosewater, six ounces.

Mix.

5. R Sulphate of Zinc, one scruple.
 Sugar of Lead, one-half drachm.
 Laudanum, three drachms.
 Tincture of Catechu, three drachms.
 Water added, six ounces.

Mix. For injection.

After the cubeb mixture (1.) has been taken for two or three days, if the case is progressing favorably, copaiba may be substituted or added to it, or, better still, capsules containing 20 drops each of oil of cubeb and oil of copaiba may be taken in doses of from 2 to 4, three or four times daily. In certain cases, where these preparations disagree, or seem to lose their effect, it will be well to substitute sandalwood oil, in doses of 10 drops four times daily. This amount may be dropped on a lump of sugar, which will absorb it, and then may be swallowed and washed down with a little water without difficulty, or it may be taken in capsules. The pure sandal oil is perfectly translucent and of a pale amber color. These capsules can be obtained at any good drug-store.

I have had more than ordinary success, with the following injection :

- R Sulpho Carbolate of Zinc, 5 grains.
 Water added, 4 ounces.

The dose, however, may be increased two-fold after a week's time.

Another very valuable injection is the following :

- R Ext. Hydrastis fld., four drachms.
 Zinci Sulph., twelve grains.
 Sulphate of Morphine, two grains.
 Mucilage of Gum-arabic, one ounce.
 Water, four ounces.

Mix. Inject four or five times a day.

Medical writers and lecturers usually recommend the employment of the ordinary sharp pointed male syringe and direct the patient to insert its nozzle the full length. This operation is very painful, the inside passage of the urethra being very tender to the touch. A syringe with a cone point, is much less painful to the patient. Such syringes are known to the trade as "cone point" syringes and are made both of glass and of rubber. The syringe should be of sufficient size to contain about one half ounce of the injecting fluid. It should be held with the nozzle firmly to the opening of the canal, so that the fluid can not escape outside, then the piston being pressed down with the forefinger, the fluid, under the pressure, fills every fold of the inflamed passage. The operation is not attended with any pain, and affords the patient a feeling of cleanliness and relief.

The patient should bear in mind that he can aid the physician in the cure of his case by a temperate and careful mode of life. He should avoid dissipation of all kinds, late hours and exertions of any sort. The use of any alcoholic drink also aggravates the disease, and the patient should, above all, refrain from sexual indulgences. Many cases of gonorrhœa are apparently cured, and would be cured, in fact, in a few days, but instead are brought on anew and given a new lease of life by a single indiscrete action. Unless the patient lives an exemplary life, free from dissipation, it is almost certain that his case will develop into gleet. Absolute acquiescence in these rules should be insisted on, as it will assist in accomplishing a speedy cure.

There are some cases of gonorrhœa that are exceedingly tenacious. A certain physician once said that he would rather treat syphilis, than one of these exceptional gonorrhœa cases. With the former he knew just what course to pursue, but with the latter, each case might require a different remedy.

Sometimes the patient thinks that he is cured, the discharge having ceased. He may still find, however, that violent exercise or other indiscretion may bring back the flow. Under these conditions the facts are that, while most of the urethral tract has been restored to its normal state, some local spot remains infected by the disease. The small amount of mucous that is formed is

washed away during the day and the patient may know nothing of it.

On rising in the morning, he should squeeze the penis gently and if the cure is not complete, a small drop can generally be expelled.

In these tenacious cases the passage of an instrument called a sound, usually effects a permanent cure. Of course this can only be done by a physician.

In some cases after all marked symptoms have vanished, there will yet remain a milky—or, rather, creamy—drop, which can be pressed out of the meatus whenever a few hours have elapsed after urination; this is chronic gonorrhœa. The mouth of the penis will often be found a little reddened or swollen, there will be an undue warmth or even a slight scalding on urination, erections will be accompanied by a dull ache, and all these symptoms will be much increased by venereal, alcoholic, or other excesses, especially by prolonged and ungratified sexual excitement and by the free use of spirituous liquors of inferior quality. There is no interval between this condition and the last stage of an acute gonorrhœa, and the use of the sound or bougee will in most cases complete a cure.

NOTE.—The employment of suppositories in the treatment of gonorrhœa is an efficient mode of direct medication. It has the advantage over injections in-as-much as it will remain longer in contact with the inflamed urethra. Urethral suppositories of extract (solid) of hydrastin and acetate of morphia are excellent applications for this purpose. They are to be introduced on going to bed and the mouth of the penis kept closed until the suppository is melted.

A DESCRIPTION AND TREATMENT OF COMPLICATIONS.

The complications of gonorrhœa are quite numerous, but the scope of this work will not afford much more than a passing notice of them. The technical terms of these affections are employed in order that the reader may know how to find a further description of the same in surgical works.

Balanitis is an inflammation of the head of the penis, and *balano-posthitis* constitutes an inflammation of the glans-penis

(head of penis) together with an inflammation of the prepuce (foreskin) of the same. Perfect cleanliness and the use of some dusting powders like calomel, bi-smuth, or powdered opium, and lycopodium applied three or four times a day, the part being previously washed and gently dried, will usually be all that is required. Strips of dry lint inserted between the glans and foreskin, and changed whenever they become moist from the discharge, will often effect a cure.

I have found very good results from painting a 30% solution of nitrate of silver over the inflamed parts.

Phimosis, or tightening of the foreskin, producing inability to replace the same, occasionally results from gonorrhœa. In nearly every case lead-water and laudanum applied externally together with injections (under the foreskin) of castile soap and water, followed by the injections recommended for the urethra, will reduce the swelling, so that the glans may be uncovered. If these means fail, the condition may be relieved by slitting open the foreskin along the back of the penis, completing the regular operation for phimosis later. *Paraphimosis*, or the opposite condition, sometimes occurs; that is a condition in which the foreskin, after being carried back of the head of the penis, is held there and cannot be restored to its proper position. Any intelligent physician should be able to replace the parts by manipulation, but if he cannot succeed in this way, a small incision must be made on the back of the penis, where the constriction exists, and instantaneous relief will follow. The parts, which are generally greatly enlarged by infiltration or inflammation, soon resume their normal condition, aided by cooling lead and opium lotions.

Epididymitis and *orchitis*, or swelled testicle, is quite common in gonorrhœa. It is often very painful but never dangerous and will readily yield to the following :

R		
	Tincture of Aconite Root,	one ounce.
	Laudanum,	one ounce.
	Solution Subacetate of Lead,	two ounces.
	Water,	two ounces.

Mix.

Apply continuously, directly over the painful testicle, a piece of lint soaked with the solution. When the tunica vaginalis becomes distended with fluid, constituting hydrocele, immediate relief is afforded by puncturing the sac. Strapping the testicle, by means of adhesive plasters after the pain ceases, is also very beneficial. Tobacco poultice is also highly recommended in swelled testicles. A properly constructed suspensory bandage should always be worn. Permanent enlargement of the testicle sometimes results from these inflammatory conditions, and is difficult of complete cure. But equal parts of blue ointment and belladonna ointment, with the internal administration of some mercurial medicine, has always succeeded, in my hands, to completely reduce such indurations.

CHAPTER XIII.

GENITO-URINARY TRACT.—GONORRHŒA IN THE FEMALE.

The Parts Affected. The Laws of Cleanliness Not to be Overlooked—Treatment—Gonorrhœa in Women is More Quickly and Easily Cured than in the Male. Constitutional or Internal Remedies Seldom Necessary—Infallible Receipts and Directions.

Gonorrhœa in the female is not as frequent, as limited in its situation, as protracted in its course, nor as serious in its results as in the male. These facts are fully established by experience, and it may affect the vulva, vagina, urethra or uterus with a frequency indicated by the order of mention. It may affect only one of these parts, or all of them at once. As stated in describing gonorrhœa in the male, women are much more subject to chronic discharges from the genital parts than men, and the fact that they so often neglect their persons in this respect is deplorable, for gonorrhœa, which, alas, is so frequent in these times, would be almost unknown if the laws of cleanliness were better observed. It is almost impossible for a man with an acute urethritis, that is in the most contagious stage of the disorder, to have connection, the pain produced by erection being in itself a sufficient preventive. This is not true of women to anything like the same extent, prostitutes especially often plying their trade in disregard of the comparatively moderate pain of even an acute vaginitis. When the vulva is affected the passage of the urine across the inflamed surfaces gives rise to an intense burning, which may be mistaken for an inflammation of the urethra and is often quite as severe.

TREATMENT.

The treatment differs somewhat according to the parts affected. To procure a speedy cure the patient should remain in bed with absolute rest, especially in cases where the vulva is

affected, as the friction produced by movement operates powerfully, and very injuriously, if the person insists upon moving about. Perfect cleanliness and dryness of the parts are essentials of success in treatment. The labia should be gently washed every two hours with a strong solution of bi-carbonate of soda (baking soda), which will dissolve and remove all accumulated discharges and will, at the same time, prove to be a very soothing application. In using this, the labia should be gently separated with the thumb and fingers of one hand, while, with the other, a stream of the alkaline solution is squeezed out of a sponge held a short distance above. After this operation is completed, a soft, old linen rag should be held in contact with the vulva until all the fluid is absorbed, the parts should be dusted with a fine powder of starch and oxide of zinc, or of opium and lycopodium, a piece of patent lint should be carefully interposed between the labia, and absolute quiet should be preserved until it is time to repeat the dressing. In certain cases the inflammation runs so high, the swelling, pain, and discharge are so excessive, that these gentle measures do not suffice. It will then be necessary to purge, to employ prolonged, general hot-baths, not sitz-baths, and then to follow them with a lotion of opium and lead water kept continually on the inflamed region, or to paint the entire vulva with a forty grain solution of nitrate of silver. This last expedient may be adopted earlier, and rarely fails to produce a good effect. When the burning and the throbbing are very great, and particularly if there is some constitutional disturbance, the abstraction of blood by leeches placed along the line of the groins and on the perineum, is very beneficial. The diet, during this period, should be restricted, consisting chiefly of milk and farinaceous articles.

In cases where the vagina is affected, the routine treatment should be as follows: The patient (usually) being in bed with the buttocks resting upon a hair pillow or a folded sheet, the bowels having been opened with a saline laxative, should be instructed to wash out the vagina every two hours with an injection of a pint, or two, of soap and water—or, if that prove irritating, with an alkaline solution; to follow this with a pint of simple water, and to conclude with a pint of some medicated solution, preferably at

this stage, one of acetate of lead. This at first sight seems like a tedious and rather formidable procedure, but it is really very easy of accomplishment, and requires but a few moments for its performance. Before using the injection, the patient may, if she chooses, move to a lounge, or preferably to an old blanket spread upon the floor. She should employ a Davidson's or Mattson's "family" syringe, using the long nozzle. This should be greased with a little vaseline, and gently inserted into the vagina to its entire extent, the patient lying on her back with the heels drawn up to the buttocks. The rubber tube, to the end of which the leaden sinker is attached, should then be dropped into a basin of water, in which a piece of white castile soap has been briskly stirred, or into one containing two, or three, teaspoonfuls of bi-carbonate of soda in solution. A bed pan, a piece of rubber cloth, a large sponge, or, better still, some old muslin or flannel rags, being placed beneath the nates (buttocks), so as to catch, or absorb, the overflow; the injection should be given in the usual manner, by regularly compressing the rubber bulb; after which, by a simple transference of the sinker to a basin, or other vessel, of clear water, the soap can be washed out, and the vagina thus prepared for the astringent, or sedative solution, which it is thought best to use. This, having been previously prepared in a wide-mouthed bottle, or another basin, may be given in the same way, and the syringe may then be withdrawn. After a very moderate experience the patient will be able to go through with this process in five, or ten, minutes, and with perfect comfort. The materials used as injections are various, but belong chiefly to the classes known as astringents and antiseptics. "In the therapeutic value of the latter in the treatment of vaginitis I have no faith—permanganate of potassium, carbolic acid, Labbaraque's solution, and others, having seemed to me to be of no more value, except, possibly, in correcting offensive odors, than as so much cold water." (Ashurst). The hot vaginal douche is recommended and is sometimes greatly beneficial; its use, however, should be limited strictly to those cases in which the patient herself recognizes its benefit. The temperature of the water should range from 100° to 110°, or even 120° Fahr. The subsiding stage of

an inflammation of the vagina will be often best treated with vaginal suppositories, which may be used twice daily, the supine position being observed for at least an hour after the introduction of each one. The following is a useful formula, but its great drawback is that it is so liable to stain the linen, which to most women is far from agreeable :

R

Ext. Opii,	grs. xii.
Acidi Tannici,	ʒ i.
Ol. Theobromæ,	q. s.
M. et ft. Suppositoria, No. XII.	

Copaiba, cubeb and sandal-wood oil may also be used with advantage, acting, as usual, through the urine. It must be understood that they are only used when the urethra is involved, that is, the canal leading to the bladder. No mention has, therefore, been made of the employment of these oils in speaking of the treatment of other forms of female gonorrhœa, as in them the anti-blennorrhagics are worse than useless. Occasionally it is found necessary, in chronic cases, to wipe out the urethra with a probe wrapped in cotton and dipped in a solution of from 20 to 40 grains of nitrate of silver to the ounce of water, and in some instances the solid stick may be employed.

(As to gonorrhœa, when it has extended to the uterus, or womb, little is said here. The affections of the uterus produced by it require no distinctive, or peculiar, therapeutic management.)

CHAPTER XIV.

GENITO-URINARY TRACT.

The Sexual Relation— Society's Serious Mistake — Maid and Lover—Man and Wife—The Very Serious Consequences of Violating the Laws of Nature—A Lengthy Extract from the Excellent Work entitled "Lessons in Gynæcology," by the Eminent Wm. Goodell, A.M., M.D., Professor of the Diseases of Women, etc., in the University of Pennsylvania in Philadelphia.

"Certain causes of uterine disease there are which I would gladly leave unnoticed, for it is hard, in acceptable language, even to allude to them. But so wide-spread are the evils resulting from them, that to pass them by would be a flagrant sin of omission." 'Two things come not back,' said the Caliph Omar, 'the sped arrow and the spoken word.' "Deeply impressed by the wisdom of this saying, I shall try so to speak on these delicate subjects, as never to regret what I have spoken."

"Arguing from a strictly practical and not from a sentimental point of view, but with all reverence, I hold that the love interchanged between man and woman is no mere operation of the mind, nor sheer intellectual process. However pure this passion may be, it is needfully two-fold in its nature. It is an alloy, made up, like ourselves, of body and mind; the grosser mould so interfluxed with the more ethereal, that the one finds its most passionate expression in the fruition of the other. Abstract love between the sexes cannot, therefore, exist in any other sense than that engendered by blood ties. Forgetful of this absolute law of our being, sentimentalists have judged too harshly of Abelard, and lavished too one-sided a sympathy upon Heloise. Without further comment, the ante-nuptial relations, at least such as custom commonly sanctions in this land,—and, I believe, in no

other—are therefore, when prolonged, very disturbing elements to a young girl's health. Long engagements, by keeping up a wearing nervous erethism, are not only recognized, but even classified, by alienists, as one of the causes of insanity of women. Much more frequently the nervous exaltation is spent upon the reproductive organs; for there follows an awakening of sense which is not, as in man, appeased by the distractions of business pursuits. Uterine trouble from this source any open-eyed physician will over and over again see. Now, it is true that in love affairs the physician must be no meddler; matchmaking is certainly not his business. But, as a tried and valued friend, as a brother beloved, he can speak out when others may not even hint. Or, when consulted by an anxious mother about symptoms in her daughter plainly referable to the reproductive organs, he can disclose the cause, and thus be the means of hastening on the cure."

"If the caresses of lovers are prejudicial to good health, every like relation between the sexes must be exposed to like dangers. In too many rural districts, and in the lower classes of citizens, such license is tolerated in the social intercourse between the youth of each sex as must be destructive both to good health and to good morals. But, since it is not to my present purpose to appear as a social reformer, I shall confine my remarks to the hygienic aspects of the subject. The "old folks" are shelved too soon. Young people are left too much to themselves, and thrown too much together. Their social gatherings are too rarely presided over by their mothers or their seniors. As a very natural consequence, their games become coarse, their forfeits immodest, and, little by little, this freedom from restraint is liable, finally, to degenerate into such gross familiarities as would be improper even between affianced lovers. An unnatural sexual excitement is thus kept up, which must do physical harm. Of the moral harm, I say nothing. In this matter I am plainly at a loss to see how a physician can interfere in any other way than by setting a good example in the order and decorum of his own household. A nimbler wit than mine may work out some better way, if so, his be the credit: I do but throw out hints."

“The excesses of the honey-moon journey, conjoined with its fatigues and its discomforts are too often the starting-point of uterine disease. Here again, will the family physician delicately proffer his counsel. In chosen words he can hint at moderation in all things, and suggest the avoidance of the usual exhausting round of travel and sightseeing. Such words will then, indeed, be spoken in season. He must, still further, take cognizance of the sexual relations between husband and wife, relations which, when abused, are productive of much mischief. All excess in that direction he will discountenance. Unmastered importunity and too submissive an affection must be met by separate beds, by uncommunicating rooms, and if need be, by strong expostulation. Criminal abortion he must denounce, and that boldly, if he value the health and the happiness of his fellow-creatures, and a clear conscience before God and before man.”

“But there are other secret sins which, like the plague of the frogs, creep out into houses and bed-chambers, and beds—sins which, although vile and filthy, concern us as physicians. The wise son of Sirach has laid down the abstract truth, that “the knowledge of wickedness is not wisdom;” and yet, for the correct interpretation of diseases, we must intrepidly search out their causes, whether moral or physical, however loathsome or impure they may be.”

“It is a well known fact that many men who should be the heads of large families, are practicing detestable arts to avoid offspring. Physicians are so often approached, perhaps indeed hard pressed, by husbands, and for the matter of that by wives also, for some method of congress unattended by the risk of impregnation. They are often consulted also for the mental and bodily infirmities resulting from these and other sexual sins.”

“My purpose, in this article, is less to discuss the moral obliquity of these secret sins of the community than to show the resulting disorders. Yet I shall not limit myself to the one point of view, for the conjugal relation is two-fold in its nature; it has a moral as well as a physical expression, but so interwoven that it is hardly possible formally to dissociate them. Nor would it be wise for a physician so to do; for who, so well as he, can

determine how far a disturbance in the one will affect the other? Moreover, so irreparable is the moral and physical degradation resulting from these vicious sexual relations, so damaging are they to good health and to good morals, so fatal to national prosperity, that I cannot go far astray in assaulting them with every available weapon."

"You have all, no doubt, had a religious training and respect the teaching of the Bible; let us see what light they throw on the conjugal relation. The first words addressed by God to our first parents conveyed the following blessing and command: "And God blessed them, and God said unto them, be fruitful, and multiply and replenish the earth." The same blessing and the same command, in precisely the same words, were twice given to Noah. Abraham and Ishmael received the same blessing, and so did Isaac thrice in one chapter. Laban's household sent away their sister Rebekah with the same blessing. "Give me children or else I die," was the cry of Rachel. Jacob called his offspring "the children which God hath graciously given thy servant;" and the same patriarch, when dying, raised himself upon his staff in order with greater solemnity to invoke upon his beloved son Joseph "blessings of the breasts and of the womb." The Psalmist declares that "children are a heritage of the Lord: and the fruit of the womb is his reward," while the curse pronounced upon idolaters by an indignant prophet is, "Give them a miscarrying womb and dry breasts." In Exodus we read that if a man, "take him another wife, her food, her raiment, and her duty of marriage, shall he not diminish."

"Throughout the Old Testament, you will find that fruitfulness was regarded by Jew and Gentile as the greatest of earthly blessings, and that as such it was withheld from the wicked. How a profanation of this blessing was regarded by God, you all know from the history of Onan, who was slain for disobeying a divine command by resorting to one of the "preventive measures" in vogue at the present day. Again, in the New Testament we find St. Paul giving the following advice to the married Christians at Corinth: "Defraud ye not one the other, * * * that Satan tempt you not for your incontinency. Let the husband render

unto the wife due benevolence ; and likewise also the wife unto the husband," etc. I have not the time to quote all that the apostle says upon the subject ; but mind you, this advice was given in troublous and persecuting times ; times in which the temptation was great to prevent the increase of families ; times to which the words of our Saviour were especially applicable : " Woe unto them who are with child, and to them that give suck in those days."

" To these Scriptural precepts and blessings you may perhaps object that they were designed for special purposes, and that, as such, they cannot concern the present generation of men. While unwilling to admit this, I reply that there is a natural religion as well as a revealed religion : the one, God's book ; the other, Nature's—a " Second Bible," as Bacon happily terms it. You have heard what the one enjoins ; now listen to the teachings of the other. " A. B., aged 30, married ten years ago, has had two children, one of them dying shortly after birth. Six years ago she and her husband came to this country and opened a small store. She was at that time in robust health, " very happy," and cheerfully waited on their customers. For no assignable reason, her health soon began to fail, and six weeks ago she came for advice in a truly pitiable plight. To use her own language, she was " very weak and miserable ;" " crying all the time ;" " cannot remember anything for ten minutes ;" " forgets the price of the goods in her husband's store ;" " was constantly mislaying needful articles, and making wrong change." She was " very suspicious," fancied " that everybody was against her and talking about her," and confessed of being extremely jealous of her husband. In addition to these mental disturbances, she eructates large quantities of wind, is obstinately costive, has violent palpitations of the heart, and cannot go up one flight of stairs without getting out of breath. She often staggers, loses consciousness, and sometimes falls from vertigo ; is annoyed by a persistent *globus hystericus*, and has no appetite whatever. The catamenia appear every three weeks, are abundant, but unaccompanied with pain. She has, however, a constant pain in the sacral and in the left infra-mammary region ; also a frequent desire to pass water, and much " bearing down " of all the pelvic organs."

“ Without wearying you with every detail, in one word, the subjective symptoms of uterine disease which she presented were more numerous and more marked than I had ever before seen in one patient. In making a vaginal examination—to which she reluctantly submitted—I was struck with the excessive sensitiveness of her tissues, and with the uncontrollable excitement under which she labored—symptoms hitherto in my experience limited to unmarried women addicted to self abuse.”

“ Finally, she flinched from any pressure, however light, over each ovarian region. I explained the significance of these symptoms to her. She then took me aside, and, unsolicited, told me her history. Being in straightened circumstances upon their arrival in this country, and withal anxious to lay by money, she and her husband agreed to have no more children. With this view, she had submitted to the following fraudulent and one sided expedient at the height of the orgasm the husband withdraws from her person, and thus sins as Onan sinned. For six years such incomplete coitions had been practiced, usually as often as five times, and never less frequently than three times, a week. She had at first attributed her ill health to change of climate, but quite recently had begun to suspect its true cause from an unexpected improvement in all her symptoms during the casual absence of her husband on business.”

“ Prompted by this suspicion, she came to consult me as to its correctness, and actually, in case it was confirmed, to learn from me some other preventive method of congress. I explained to her the sinfulness of her conduct, and urged her to receive the approaches of her husband in a natural way, as otherwise nothing could be done for her. This, however, she flatly refused to do, saying she would much prefer a separation, or even a divorce from him. Upon inquiry, I learned that her “ husband was not the man he used to be :” that he was morose and dyspeptic, complaining much of general weakness and loss of appetite. Two weeks later, she came with much glee to say that by a mutual agreement this incomplete act of coition was in future to be limited to twice a week, and that she was now ready for treatment, whereupon I refused to have anything more to do

with her ; and I have not seen her since. This then is the history of a woman whose health is shattered, whose morals are perverted, whose mind is verging towards insanity. Now, what physical law of her being, what moral obligation has been broken ?

“ Why has nature been so resentful, and why these fierce reprisals ? These are questions which press for an answer.”

“ The sexual instinct has been given to man for the perpetuation of his species ; but, in order to refine this gift and to set limits to its abuse, it has been wisely ordered that a purely intellectual quality—that of love—should find its most passionate expression in the gratification of this instinct. Dissociate the one from the other, and man sinks below the level of the brute. Destroy the reciprocity of the union, and marriage is no longer an equal partnership, but a sensual usurpation on the one side, and a loathing submission on the other. Consider the moral effect of such shameful manœuvres ; wedlock lapses into licentiousness ; the wife is degraded into a mistress ; love and affection change into aversion and hate. Without suffering some penalty, man cannot disturb the conditions of his well-being or trespass beyond its limitations. Let him traverse her physical laws, and nature exacts a forfeit ; dare he violate his moral obligations, an offended Deity stands ready to avenge them. That this law is immutable, witness from the history I have just given you, the estrangement between husband and wife ; witness his ill health and ill temper, and the wreck of body and of mind to which she has been reduced.

“ The husband suffers mentally, because no *man* can behave in so unmanly a way without a keen sense of self abasement, without being stung by the chastisement of remorse. Dishonor the body, the temple of the soul, and you dishonor the soul. Again, by this cowardly recoil, his enjoyment in the act is so blunted that he is tempted to seek elsewhere for those pleasures which are denied him at home. Further he suffers physically, because, although he passes through the crisis of the sexual act and completes it in that sense, yet, owing to his withdrawal from the person of his wife just before the moment of ejaculation, this acme of the orgasm, by the lack of the normal and needful adjuvant—viz., the rugous and constricting vagina—is not sufficiently

prolonged to wholly empty the *vasa deferentia*. Enough of the semen remains behind to tease his organs and to kindle in him desires too importunate to tolerate any great self control. He is thus goaded on to such sexual excess as no brain nor brawn can long support ; for a constant drain on the lifegiving fluid implies a constant expenditure of nerve force. Early exhaustion and premature decrepitude will inevitably ensue if this practice of "conjugal onanism" is persisted in. Nor is this name a misnomer ; for there is no essential difference between this habit and that of masturbation. Both injure in precisely the same way, and for precisely the same reasons. It does indeed seem to be the law of Nature that man must suffer the punishment of the onanist if he parts with the "seed of another life" in any other way than in that by which it tends to become fruitful."

"The wife suffers the most, because she both sins and is sinned against. She sins, because she shirks those responsibilities for which she was created. She is sinned against because she is defrauded of her rights. Lawful congress completely performed so far satisfies an imperious instinct, that attendant local congestions are at once relieved, and to great nervous excitement succeeds a calm repose of body and mind. On the other hand conjugal onanism provokes in her desires which keenly solicit that very gratification which is denied by the nature of the act. The excessive stimulation of the whole reproductive apparatus which keeps up, as in the case noted, a sexual excitement remains unappeased. A nervous super excitation continues, and a hyperæsthesia of the parts. By forfeiting her conjugal rights, she does not reach that timely conjuncture which loosens the tensions of the coarctative muscles of her erectile tissues. Hence the congestive orgasm of the vagina, womb, oviducts, and of the ovaries, does not at once pass away, but persists for some time—perhaps is not wholly effaced before another incomplete coition brings a fresh instalment. Thus arise engorgements, erosions, and displacements of the womb, and inflammation of its appendages, accompanied, of course, by all those protean mental and physical manifestations which I have shown you in the case of "Mrs. A. B." She takes distorted views of life and of the marriage relation, and harbors resentment against her husband as

to the author of all her ills. But we have not yet done with the train of evils. The uterine, ovarian, and vaginal plexus of veins, inosculate freely with the hemorrhoidal vessels, and consequently with the portal vein (which goes to the liver). Hence the turgescence of the one group of blood-vessels leads to the engorgement of the other, and the persistent congestion of the intra-pelvic veins determines portal obstruction, and *vice versa*. The great vascularity and the erectile structure of the reproductive organs, favor this turgescence. As a consequence, functional derangement of the liver are commonly associated with uterine disease. To this interdependence may we refer the obstinate costiveness, the vertigo, the loss of appetite, the dyspeptic melancholy, and the suspicious nature of the person spoken of."

"Again—for the ill effects of such practices accumulate—the very barrenness aimed at by these criminal expedients is in itself a source of disease. In sterile women the absence of pregnancy and of suckling prevents a break in the constantly-recurring catamenia, and the physiological congestions of the womb augmented by the sexual congestions are, by careless repetition, liable to become pathological. Add to this the unrelieved congestions arising from incomplete intercourse, and a prolific source of uterine and of liver disorders is at once manifest."

"Now there are other artificices—nay, even equipments borrowed from the brothel—for the purpose of avoiding conception, which may well alarm publicists and statesmen. For, vile as they are, they have received the open sanction of those English political economists who forgot that crime and vice and human suffering in their land are due less to "over-population and large families" than the absenteeism, to laws of primogeniture and of entail; to the grasping avarice of the rich, and to the intemperance, ignorance, and shiftlessness of the poor. All these expedients operate by directly preventing the access of the spermatozoa to the uterine cavity, by destroying them, or by washing them away; but they are all hurtful equally to mind and body. If it is hazardous for an overheated stomach to receive a glass of water—its natural and accustomed beverage—how much more will it be to deluge the over-congested womb with such foreign fluids as simple or astringent injections!"

“ For the limitation of families, some conscientious political economists recommend absolute abstinence. But, if the “ nervous erethism ” of long engagements is assigned by alienists as a common cause of insanity, and by physicians as a frequent source of uterine disturbance, what derangement of body and of mind may not spring from this forced continence ! Perhaps, however, we are wasting words on impossibilities. There is a wide-spread delusion, as old as the art of medicine itself, that intercourse after the tenth day following the cessation of the menses is not attended with the risk of impregnation. But ovulation is not necessarily menstruation ; and he who constructs domestic time-tables or trusts to his almanac, will find that accidents can happen in the best regulated family. If he protract the time of intercourse to a still later period after menstruation, he is liable to inseminate an ovum near the os uteri, and thereby produce placenta prævia. If he perform the act during menstruation, he is likely to bring about a pelvic hæmatomicæ, a pelvic peritonitis, or even an extra uterine pregnancy. Over-lactation to avoid the dreadful accident of motherhood is not only a very fruitful source of disease in women, but it very seriously compromises the health of the child ; for it causes rachitis, cholera infantum, and the wasting diseases of children. On the other hand, if the mother, when pregnant, continues to nurse her child, in order to bring on an abortion, the child is sure to suffer from the deteriorated milk, and the mother, from the double demand upon her vital energies.”

“ In a late discussion before the British Medical Association, in which some of the foremost men of England took part, it was the unanimous verdict that over-breeding does not produce ill-health so much as efforts to prevent conception. The venerable West, accuses “ the imperfect performance ” of sexual intercourse as one of the frequent causes of uterine engorgement, and of enlargement of the cervix * * * Like disorders, from like causes, I have so often seen, that when called to a case of pelvic inflammation, I take it for granted that means have been adopted for preventing conception * * * There are, in fact, no harmless or available means for thwarting nature’s plain intention ; for if they should not happen to injure the body, they assuredly will the mind. How

immoral must be the effect when husband and wife meet, not "to endear each other"—as Jeremy Taylor quaintly has it—but to adjust accoutrements, to compound antidotes, and to consummate with prearranged precautions and cold-blooded calculations a union which for its perfect mental and physical fruition, should be spontaneous and unrestrained! All these artifices soil the purity of thought, and degrade marriage into a carnal compact which regards alone the needs of the flesh."

"Such, then, are my views upon the so called 'misery checks' and 'common sense measures;' and I feel that they can not be gainsaid. I dare any political economist to show me one innocuous expedient whereby conception can be avoided. I challenge him to name a single preventive plan which will not do damage either to good health or to good morals. Even natural sterility is a curse. Show me a house without children, and, ten to one, you show me an abode dreary in its loneliness, disturbed by jealousy or by estrangement, distasteful from wayward caprice or from unlovable eccentricity. Depend upon it, there are no thornless by-paths by which man can skulk from his moral and physical obligations; no safe stratagems by which he can balk God's first blessing and first command. * * *

CHAPTER XV.

GENITO-URINARY TRACT.—LACTATION.

Wet Nursing—Disadvantages to a Healthy Woman if She Does not Nurse Her Infant. Bodily Disease, Sore Breasts. Cancer or Uterine Diseases Often Result if Nursing is Neglected. Mechanical Means. Diet and Medical Agents, Which Promote the Secretion of Milk. How to Check an Over-Abundant Secretion of the Lacteal Fluid. The Influence of Coffee on the Mammary Secretion. Treatment of Sore Nipples. Different Kinds of Nipple Shields.

Should a healthy woman suckle her children? This, and the disadvantages which are likely to result to herself if she does not, are what we should first consider. Burdach, a French writer, says: "It is always delightful to perform a duty, how much more a maternal obligation." Is there a more delightful occupation for a mother than to watch the little babe hanging upon her breast, so helpless, and yet so fondling, nestling so closely to her, and feeding so contentedly upon her milk? Is there any way by which love can be more riveted between two beings, in such intimate relation? "Can a woman forget her suckling child?" And when every day brings new pleasures, and ripens on both sides the mutual affection—when the child thrives well, and, as if in tender gratitude, lies smiling upon the mother's lap, what a comfort, what a happiness for the mother! It is scarcely credible, yet a painful evidence of our fallen nature, that there are to be found those who can so far forget themselves, and their responsibility before God and man, as to neglect the performance of those duties; nay, who will even conceive them irksome, because for a time, they interfere with their pleasures and frivolities. Could the brute creation speak, they would cry "shame" upon such mothers, and all nature united would re-echo the cry upon such selfish and cruel women. But this is not all. The mother will

not only suffer moral punishment. In this matter the chances are that she will find that if she sows to the flesh, she has of the flesh to reap corruption. Not only may her own natural feelings and those of her offspring towards herself become blunted and callous, but she may, also be the victim of immediate bodily suffering, perhaps, ultimately, of loathsome disease. Through this unnatural neglect, painful distention of the breast, fever and very painful abscesses may occur, which, by weakening the system, lay the foundation of exhaustive diseases, such as anæmia, indigestion and even consumption. Cancer and other diseases of the breasts are much less frequent in women who suckle their infants than in those who, for some inexcusable cause or other, neglect this maternal obligation. But more than this. If a woman bears children too frequently and too rapidly, which is a likely occurrence if she does not suckle, or does so for too short a period, disease may be thereby engendered in her offspring, who will often prove diseased and weakly, and it is to be feared that the mother may not have the satisfaction of seeing her children attain the age of maturity. The laws of nature are irrevocable, and no woman can afford with impunity to maintain a code of her own, in defiance of them. If there be any doubt as to the influence of not sucking upon the production of cancer of the womb, there is none whatever on its influence in the development of other diseases of the womb, often of a very severe and painful kind, of long duration usually and frequently incurable. Owing to the sympathy which exists between the breasts and the womb, if the function of these organs be not properly fulfilled, the other is sure to suffer. The immediate effect upon the womb of sucking, is to cause it to contract. Hence the reason that sucking a breast when a woman is flooding often causes the flooding to cease, by directly exciting the wished for contraction. When pregnancy has terminated, the volume of the uterus is still very large, and, unless it becomes lighter, it will, by its weight, have an increased tendency to sink, or fall, and become displaced otherwise as by flexions and versions. Such is especially the case in weakly women, or in those who get up too soon after their confinements. Hence the need of the maintenance of a contracting influence of the

womb, to promote its absorption and diminution of size, and this is what suckling brings about gradually, but effectively. The organ becomes reduced in volume and finally acquires a healthy standard. If this condition be not arrived at, then the womb remains large and heavy. Bearing down sensations, back-ache, bladder trouble, copious leucorrhœa, etc., result, due to inflammation of the lining membrane of the womb (endometritis) and congestion of the organ, ulceration of the mouth of the uterus, etc., with all the distressing and painful consequences. Thus, for a brief time of selfish gratification, a life may be made miserable and severe penalty be entailed. So a woman may esteem herself fortunate if cured after months, or, perhaps, years of suffering.

But there are a great number of good mothers who would only be too happy to perform this sacred duty and nurse their children, if they only possessed or could provide the necessary quantity of breast milk to do so, and it is mainly on account of this class of unfortunates that this discourse is written, so as to suggest proper ways and means to secure the necessary amount of lacteal secretion. This trouble is known as defective lactation, and it may result from various causes. Among them may be mentioned—age, paralysis, fear, and mental emotions generally, and disease of the sexual organs (with, or without, atrophy of the breast), excessive fat, and a tendency generally to the deposition of fat in and about the breasts; impure air, debility, too sedentary a life, want of proper exercise, and so on.

There are certain mechanical and physiological methods of inducing a flow of milk in the breast, provided that none of those powerful mental influences we have already spoken of are present to paralyze the functions. Many suckling mothers have complained to me of the extreme annoyance to themselves and the child when it is put to the breast—their maternal feelings being severely wounded on account of the attempt, on the part of the child, to procure milk from what appeared to be a dried-up breast.

Among the most powerful preservatives of the milk secretion, the first to be noticed is suction from the nipple, which faculty nature has implanted in infants even though unconscious of its existence themselves. There are many cases on record in which

this has produced the flow of milk in women who have never borne children, and even in men. Baudelocque mentions the case of a girl, eight years old, who suckled her brother for a month, and cases at the opposite extreme of life have been reported ; one of a woman of seventy years, who wet-nursed a grandchild twenty years after her last confinement. Travellers among barbarous nations or tribes, have often observed these cases of unnatural lactation. Humboldt saw a man, thirty-two years old, who gave the breast to his child for five months, and Captain Franklin, in the Arctic regions, met a similar case. Dr. Livingstone, in his account of Africa, says, that he examined several cases in which a grandchild was suckled by a grandmother, and equally remarkable instances of lactation occur among the negroes of the Southern and Middle States. Professor Hall presented to his class in Baltimore a male negro fifty-five years old who wet-nursed all the children of his mistress. In these cases of abnormal lactation, so far as we have complete records of them, it is ascertained that the breasts were torpid, and even sometimes, as in old people atrophied (wasted) till the nursing commenced. Another mode of increasing the functional activity of the milk glands is by electrical currents, but this should only be performed by a skilled physician and not practiced by inexperienced people.

In all cases of insufficient secretion of milk, the regimen of the mother is a matter of importance. Personal and domiciliary cleanliness are essential for successful wet-nursing. A certain amount of exercise in the open air is conducive to the health of the mother, and to the secretion of abundant and healthy milk. A case is related by a learned medical writer of a lady of cleanly habits, living in London, who had a very scanty supply of milk. She removed to the pure air of the sea shore, and immediately the quantity became abundant, and continued so for months. Such cases are not infrequent. A mode of life that contributes to the general health of the mother will not fail to augment the quantity of her milk, if it is scanty, and to improve its quality.

Much has been written in reference to the diet of women who suckle. It is a popular belief that certain articles of food promote the secretion of milk much more than other articles, though equally

nutritious. No doubt, writers have erred in recommending exclusively this or that kind of food, as most likely to produce milk. The exact kind of food which is preferable, in certain cases depends partly on the physique of the individual, and partly on the character of the food to which she has been accustomed. A mixed diet contributes most to the sustenance of the mother, and to an abundant secretion of milk. Animal substances which furnish a due supply of nitrogenous aliment, should be given with the farinaceous (starchy). Mothers pallid, and inclining to an anæmic condition, require a larger proportion of animal diet than those in good general health. On the other hand, plethoric women, who with excellent appetites consume large quantities of food, and who become more and more full blooded and corpulent while the milk diminishes, require a more restricted animal diet, in connection with frequent exercise, especially in the open air. There are certain kinds of food which do appear to have a galactogogue effect, with most wet-nurses. Oatmeal gruel is one of these. Wet-nurses often remark, after taking a bowl of this, that they feel the flow of milk. Cow's milk, with some has a similar effect. Porter or ale taken once or twice a day, also promotes the secretion of milk, especially in those who have poor appetite, and whose systems are somewhat reduced. A great variety of medicines have been used for their galactogogue effect. Medicines which improve the general health are, no doubt, sometimes useful for this purpose, such as the vegetable and ferruginous tonics, and perhaps cod-liver oil. But there are other medicines which, it is claimed, have a specific effect on the mammary gland promoting its secretion. Lettuce, winter-green, fennel, the broom tops (*Cytisus scoparius*), marsh-mallow, castor oil plant, and many other plants have been used for the purpose. There can be no doubt that the aromatic stimulants, as fennel, anise, and caraway seeds, given in soups, sometimes stimulate the lacteal secretion. But the medicine, which of late has attracted most attention, as a galactogogue, is castor oil and the plant from which it is derived. The galactogogue effect of the leaves of the castor oil plant has been long known to the Spaniards in South America. At least, as long ago as the commencement of the last century, the castor oil leaves were applied

by them externally to the breast, to promote the secretion of milk. It is now about twenty years since this use of the plant was brought prominently to the notice of the profession in this country and in Europe. In the *London Journal of Medicine*, 1857, Dr. Tyler Smith relates the results of his experiments with the castor oil plant. He applied the bruised leaves over the breasts, and witnessed as he thinks, an evident galactagogue effect. Dr. Routh has also made pretty extensive use of the plant, both externally and internally. He was led, he says, to employ it internally by noticing in suckling women an increase of milk, after taking a dose of castor oil. He prescribed a decoction of the leaves and stalks, and says: "I have not been disappointed. The flow has been remarkably increased. The breasts should at the time of its use be covered with a fomentation of leaves; or an extract of the leaves should be rubbed over the breasts in the same way in which extract of belladonna is used, and over this a warm poultice applied of the ordinary material." Dr. Routh remarks: "When the castor oil leaves are given as an infusion to women who are not suckling, I have observed two effects, both of which seem to denote its specific action. First, it produces internal pain in the breasts, which lasts for three or four days. Then, secondly, a copious leucorrhœal discharge takes place, after which the effect on the breasts entirely disappears. Dr. Gilfillan, of Brooklyn, has also employed the castor oil leaves successfully as a galactagogue. He employed a poultice of the pulverized leaves, and gave internally the fluid extract of the leaves, a teaspoonful three times daily. The patient had been confined the year before with her first child, but had no milk for it, though her health was good and measures were employed, such as friction and fomentations, to stimulate the secretion. The castor oil was prescribed the fourth day after her confinement with the second child, when there were no signs of secretions and the breasts were small. "About two hours after the poultice was applied, and the first dose taken, she experienced a strange sensation in the breasts, and this increased after each dose of medicine. The poultice was not renewed, but the extract was continued for three days, after which lactation was perfectly successful." So far observations have

shown that the castor oil plant is the most efficient galactagogue which we possess among medicinal agents.

Dr. A. Harkin highly praises chlorate of potassium as a potent galactagogue. He has used it over fifty years, during which time he never found it to injure either mother or child. His prescription is as follows :

R

Potass. Chloratis, ℥vii (7 drachms).

Aquæ Destillatæ, ℥xxviii (18 ounces).

M. Sig. : One ounce three times a day before meals.

Castor oil for this purpose may be given in teaspoonful doses, two or three times a day, mixed with extract of malt which disguises its taste completely and increases its efficacy.

COFFEE AND LACTATION.

Dr. Alice McLean states (*Medical and Surgical Reporter*), that in an institution of which she had charge recently, in which there were about thirty nursing women, coffee was served twice a week. Regularly upon those days the nurses in charge reported a scarcity of breast milk, and there was frequently a necessity for resorting to artificial feeding to eke it out. To the obvious suggestion of abstinence in such cases, is added the complementary suggestion that coffee might be useful where the secretion becomes undesirable or excessive.

The opposite condition sometimes exists in reference to the secretion of milk—that is, there may be an excessive, or superabundant, flow of the lacteal fluid, to which the term galactorrhœa is applied; and because of its tendency to exhaust the mother, requires proper treatment, to lessen its flow. There are medicines which cure this affection by diminishing the amount of milk. Belladonna, iodide of potassium, and colchicum are anti-galactics (agents to lessen the secretion of milk). It is sometimes proper to use them in case of weaning or of death of the infant. They may not only reduce the quantity of milk, but, continued, may prevent its secretion. They are employed not to benefit the infant, but the mother. On the other hand, if it is our purpose to prevent the oozing of milk in order to save it for

the infant, or, if it is abundant and watery, to diminish somewhat its quantity and improve its quality, the treatment should be different. Iron, in cases of excessive secretion, in which the condition of the system appears to indicate the need of it, will diminish the quantity of the milk and render it richer. It should, however, not be too long continued as it might lessen the secretion so much as to necessitate the weaning of the infant.

Sore nipples and imperfectly developed nipples, require local treatment. Sore nipples may be treated by—1. Soothing applications. Some recommend lead lotion or opium lotions. In mild cases honey, gum, solut. tulu, or Friar's balsam, may be applied by a camel's hair brush every time the child has suckled. Fuller's earth or bismuth sometimes proves useful.

2. By caustic application. For sore nipples the application of various caustic solutions, or even of the solid nitrate of silver, are very efficacious.

3. Shields. These are generally of four kinds—the cow udder, caoutchouc, glass and wood. The cow udder is an old woman's and a very popular medium; and if kept very clean and frequently renewed is as good as any of them. The caoutchouc nipple is, however, generally preferred. Kept in a little water or glycerine, when not in use, after having been nicely washed in a little warm water, it will remain sweet for weeks. Sometimes the shields are made completely of glass or wood, resembling in shape and form the ordinary nipple of the areola of the breast, the nipple portion being perforated with holes.

CHAPTER XVI.

DIGESTIVE TRACT.

Food for the Sick and Its Administration—Many Valuable Receipts for the Invalid—Cookery for the Sick Room—Broths—Soups—Gruels, etc. The Use and Abuse of Alcoholic Stimulants—A Pound of Beef and a Pound of Eggs—How to Vary the Diet—Tuberculous and Other Germs in the Milk—Boiling as a Safeguard—A Warning Against So-called Infant Foods. The Opinion of Ex-Provost Pepper.

To provide food for the sick which will be at once suitable and acceptable is a matter which requires care, judgement, and ingenuity, but it is well worth the expenditure of them all. The aim should be to give what will be at once easy of digestion and of value after it is digested.

It is a lamentable fact that physicians as a rule understand but little about the culinary art or cooking, as the same is as yet not required in their medical curriculum, consequently the duty and knowledge devolves almost entirely, upon the nurse or attendant and it is very important that persons thoroughly understand how to provide the proper diet for the sick-room. The physician may suggest—but is usually incapacitated to prepare it and the attendant can not be too well possessed of the understanding how to provide food for the sick. It is with this object in view that this chapter is written.

All soups should be allowed to stand until cold as the fat can be perfectly removed while hot. Heat, when required for use, only to the palatable point without further boiling. *not*

A variety of gruels, porridges, etc., are made of oatmeal. Indian-meal, arrow-root, rice-flour, corn-starch, etc. Different crushed cereals may be obtained already steam-cooked, which will

be found excellent and very convenient as they take very little time for preparation. Directions for use are supplied with them.

Both oatmeal and Indian-meal have a loosening effect upon the bowels, and are consequently objectionable when there is any tendency to diarrhœa. In such cases boiled milk is preferable to raw. When there is nausea arising from over-acidity of the stomach, limewater may be added to the milk, in any proportion up to one-half. If there is also constipation, carbonic-acid water or Vichy is to be preferred. Skimmed milk can often be taken when the cream can not, and it should be remembered that this contains all the elements of nutrition. Buttermilk is also good.

Milk may be kept for some time from souring, even in warm weather, by adding to each quart fifteen grains of bi-carbonate of soda, and a little sugar.

The following receipts for sick cookery are all of tested value, and simple enough to be used successfully by the least experienced in culinary art.

FIFTY FORMS OF FLUID FOOD.

Beef-tea.—Take a pound of juicy beef cut from the round, remove all the fat, and cut into very small pieces. Put in an earthen pot and add a quart of cold water. Cover it closely, let it soak for an hour, and then gently simmer for two hours more, or until the strength is quite extracted from the beef. Strain, and season with salt and pepper.

Beef-essence.—Mince finely a pound of lean, juicy beef, from which all the fat has been removed; put into a wide mouthed bottle or fruit jar, and cork tightly. Set the jar into a kettle of cold water over a slow fire, and let it boil for three hours. Strain and season with salt and pepper.

Peptonized Beef-tea.—To half a pound of raw beef, free from fat and finely minced, add ten grains of pepsin, and two drops of hydrochloric acid. Put in a large tumbler, and cover with cold water. Let it stand for two hours at a temperature of 90°, being frequently stirred. Strain and serve in a red glass, ice-cold. Peptonized food does not keep well, and should never be used more than twelve hours old.

Beef-juice.—Place half a pound of lean, juicy beef on a broiler, over a clear hot fire, and heat it through. Press out the juice with a lemon squeezer into a hot cup, add salt, and serve hot with toast or cracker.

Beef-tea with Oatmeal.—Mix a tablespoonful of well cooked oatmeal with two of boiling water. Add a cupful of strong beef-tea, and bring to the boiling point. Salt and pepper to taste, and serve with toast or crackers. Rice may be used in place of oatmeal.

White Celery Soup.—To half a pint of strong beef-tea add an equal quantity of boiled milk, slightly and evenly thickened with flour. Flavor with celery seeds, or pieces of celery, which are to be strained out before serving. Salt to taste.

Chicken Broth.—An old fowl will make a more nutritious broth than a young chicken. Skin, cut it up, and break the bones with a mallet. Cover well with cold water, and boil slowly for three or four hours. Salt to taste. A little rice may be boiled with it, if desired.

Mutton Broth.—Cut up fine two pounds of lean mutton, without fat or skin. Add a tablespoonful of barley, a quart of cold water, and a teaspoonful of salt. Let it boil slowly for two hours. If rice is used in place of barley, it will not need to be put in till half an hour before the broth is done.

Oyster Broth.—Cut into small pieces a pint of oysters; put them into half of cold water and let them simmer gently for ten minutes over a slow fire. Skim, strain, add salt and pepper.

Clam Broth.—Take three large clams, and let them stand in boiling water till the shells begin to open. Drain out the liquor, add an equal quantity of boiling water, a teaspoonful of finely pulverized cracker crumbs, a little butter and salt to taste.

Rice Soup.—Take half a pint of chicken stock and two tablespoonfuls of rice. Let them simmer together for two hours, then strain and add half a pint of boiling cream and salt to taste. Boil up once, and serve hot.

Peptonized Milk.—Stir up five grains of pancreatic extract and fifteen of bicarbonate of soda in a gill of water, mix thoroughly and add a pint of fresh milk. Put in a bottle or a covered jug,

and let it stand where it will keep warm for an hour. Then put on ice until required for use, or boil for two or three minutes to stop further digestive action. Milk so prepared will have a faintly bitter flavor; it may be sweetened to taste, or used in punches, gruels, etc., like ordinary milk.

Flour Gruel.—Mix a tablespoonful of flour with milk enough to make a smooth paste, and stir it into a quart of boiling milk. Boil for half an hour, being careful not to let it burn. Salt and strain. This is good in case of diarrhœa.

Boiled Flour Gruel.—Moisten a pint of flour with a couple of ounces of cold water, make it into a ball, and tie it up tightly in a strong cloth, sprinkle it with flour, and boil it hard for ten hours. Then take off the cloth, and let the ball dry in a slow oven for ten hours more. Grate two teaspoonfuls of flour from the dry ball, mix it with cold water to a smooth paste, and stir it into half a pint of boiling milk. Simmer about three minutes and sweeten. This is considered especially good for children while teething.

Oatmeal Gruel.—Boil a tablespoonful of oatmeal in a pint of water, for three quarters of an hour, then put it through a strainer. If too thick, reduce with boiling water to the desired consistency. Season with salt.

Oatmeal Gruel with Milk.—Soak half a pint of oatmeal in a quart of water over night. In the morning add more water, if necessary, and boil for an hour. Squeeze through a fine strainer as much as you can, and blend it thoroughly with a pint of boiling milk. Boil the mixture for ten minutes and salt to taste.

Cracker Gruel.—Pour a pint of boiling milk over three tablespoonfuls of fine cracker-crums. Butter-crackers are the best to use. Add half a teaspoonful of salt, boil up once altogether, and serve immediately. Do not sweeten.

Indian-meal Gruel.—Mix a scant tablespoonful of Indian-meal with a little cold water, and stir in a pint of boiling water. Boil for half an hour. Strain and season with salt. Sugar and cream may be added, if desired.

Arrowroot.—Mix a tablespoonful of Bermuda arrowroot with four of cold milk. Stir it slowly into half a pint of boiling milk, and let it simmer for five minutes. It must be stirred all the time, to pre-

vent lumps and keep it from burning. Add half a teaspoonful or sugar, a pinch of salt and one of cinnamon, if desired. In place of the cinnamon, half a teaspoonful of brandy may be used or a dozen large raisins may be boiled in the milk. If the raisins are preferred, they should be stoned, and the sugar may be omitted. Cornstarch or rice-flour gruel is made in the same way.

Sago Milk.—Wash a tablespoonful of pearl sago, and soak it over night in four of cold water. Put it in a double kettle with a quart of milk, and boil until the sago is nearly dissolved. Sweeten to taste, and serve either hot or cold.

Treacle Posett.—Bring a cupful of milk to the boiling point, and stir into it a tablespoonful of molasses. Let it boil up well, strain, and serve.

Milk and Albumin.—Put into a clean quart bottle a pint of milk, the whites of two eggs, and a little pinch of salt. Cork, and shake hard for five minutes.

Koumyss.—Dissolve a third of a cake of compressed yeast, (Fleischmann's), or its equivalent of fluid yeast, in a little warm—not hot—water. Take a quart of milk fresh from the cow, or warmed to about blood heat, and add to it a tablespoonful of sugar and the dissolved yeast. Put the mixture in beer bottles with patent stoppers; fill, to the neck, and let them stand for twelve hours where you would put bread to rise—that is, at a temperature of 68° or 70°. Then put the bottles on ice, upside down, until wanted.

Wine Whey.—Heat half a pint of milk to the boiling point, and pour into it a wine-glass of sherry. Stir once round the edge, and as soon as the curd separates, remove from the fire and strain. Sweeten if desired. The whey can be similarly separated by lemon juice, vinegar, or rennet. With rennet whey, use salt instead of sugar.

Mulled Wine.—Into half a cup of boiling water put two teaspoonfuls of broken stick cinnamon and half a dozen whole cloves. Let them steep for ten minutes, and then strain. Beat together until very light two eggs and two tablespoonfuls of sugar, and stir into the spiced water. Pour into this, from a height, a cupful of sweet wine, boiling hot. Pouring it several times from one pitcher

to another will make it light and foamy. Serve hot. The wine should not be boiled in tin.

Milk Punch.—To half a pint of fresh cold milk add two teaspoonfuls of sugar and an ounce of brandy or sherry. Stir until the sugar is dissolved.

Eggnogg.—Beat the white of an egg stiffly, then stir into it in turn a tablespoonful of sugar, the yolk of the egg, a tablespoonful each of ice-water, milk and wine. Do not beat but stir very lightly.

Eggnogg No. 2.—Beat up one egg with a tablespoonful of sugar. Stir into this a cup of fresh milk, an ounce of sherry, or half an ounce of brandy, and a little nutmeg.

Hot Eggnogg.—Beat together the yolk of an egg and a tablespoonful of sugar, and stir into a pint of milk at the boiling point. Add a teaspoonful of brandy or whiskey, and grate a little nutmeg over the top.

Syllabub.—Dissolve two teaspoonfuls of sugar in a tablespoonful of wine, put it in a pint pitcher, and take it to the cow. Milk into it until the foam reaches the top.

Egg Water.—Stir the whites of two eggs into half a pint of ice water, without beating, add enough salt or sugar to make it palatable. Good for teething children with diarrhœa.

Egg Broth.—Beat together one egg and half a teaspoonful of sugar till very light, and pour on a pint of boiling water, stirring well to keep it from curdling. Add salt and serve hot.

Hot Milk and Water.—Boiling water and fresh milk, in equal parts, compose a drink highly recommended in cases of exhaustion, as it is quickly absorbed in the system with very little digestive effort. This is also true of the egg broth above described.

Lemonade with Egg.—Beat one egg with two tablespoonfuls of sugar until very light, then stir in three tablespoonfuls of cold water, and the juice of a small lemon. Fill the glass with pounded ice, and drink through a straw.

Barley Water.—Wash thoroughly two ounces of pearl barley in cold water. Add two quarts of boiling water and boil until reduced to one quart—or about two hours—stirring frequently.

Strain, add the juice of a lemon and sweeten. For infants omit the lemon.

Toast Water.—Toast three slices of stale bread to a very dark brown, but do not burn. Put into a pitcher and pour over them a quart of boiling water. Cover closely, and let it stand on ice until cold. Strain. Good for nausea from diarrhœa. A little wine and sugar may be added if desired.

Apple Water.—Slice into a pitcher half a dozen juicy sour apples. Add a tablespoonful of sugar, and pour over them a quart of boiling water. Cover closely until cold, then strain. Slightly laxative.

Gum Arabic Drink.—Dissolve an ounce of gum arabic in a pint of boiling water, add two tablespoonfuls of sugar, a wineglass of sherry, and the juice of a large lemon. Cool and add ice.

Flax-seed Lemonade.—Into a pint of hot water put two tablespoonfuls of sugar and three of whole flaxseed. Steep for an hour, then strain, add the juice of a lemon, and set on ice until required.

Potus Imperialis.—To a quart of boiling water add half an ounce of cream of tartar, the juice of one lemon, and two tablespoonfuls of honey or sugar. Let it stand on ice until cold.

Irish Moss.—Wash thoroughly a handful of Carrageen moss, pour over it two cups of boiling water, and let it stand where it will keep hot, but not boil, for two hours. Strain, add the juice of one lemon, and sugar to taste.

Slippery-elm may be used in the same way, a teaspoonful of the powder to each cup of boiling water.

Bran Tea.—To a pint of wheat bran add a quart of boiling water. Let it stand where it will keep hot, but not boil, for an hour. Strain and serve with sugar and cream. This is palatable and nutritious.

Corn Tea.—Parch brown a cupful of dry sweet corn, grind or pound it in a mortar. Pour over it two cups of boiling water, and steep for a quarter of an hour. This is light and nutritious.

Rice Coffee.—Parch and grind like coffee half a cupful of rice. Pour over it a quart of boiling water, and let it stand where it will keep hot for a quarter of an hour, then strain, and add boiled milk and sugar. This is nice for children.

Crust Coffee.—Take a pint of crusts—those of Indian bread are the best—brown them well in a quick oven, but do not let them burn; pour over them three pints of boiling water, and steep for ten minutes. Serve with cream.

Tea.—Tea should be made in an earthen pot, first rinsed with boiling water. Allow a teaspoonful of tea to each half pint of water. Put in the tea, and after letting it stand for a few moments in the steaming pot, add the water, freshly boiling, and let it stand where it will keep hot, but not boil for from three to five minutes.

Coffee.—Stir together two tablespoonfuls of freshly ground coffee, four of cold water, and half an egg. Pour upon them a pint of freshly boiling water, and let them boil for five minutes. Stir down the ground, and let it stand where it will keep hot, but not boil, for five minutes longer. In serving put sugar and cream in the cup first, and pour the coffee upon them.

French Coffee.—Some people prefer filtered coffee to boiled. This is best made in a French biggin, consisting of two tin vessels, one fitting into the other, the upper one supplied with strainers. The coffee, very finely ground, is placed in this, and the boiling water allowed slowly to percolate through it. The pot is to be set where it will keep hot, but not boil, until the water has gone through. Pouring it through a second time will make it stronger, but it loses its flavor. *Cafe noir* is always made in this way.

Coffee and Egg.—Boil together for five minutes a tablespoonful of ground coffee, a quarter of a pint of milk, and a quarter of a pint of boiling water. Beat an egg and four teaspoonfuls of sugar together until stiff and light, and strain the boiling coffee into it, stirring all the time. Add two tablespoonfuls of hot cream. This is only to be given in small quantities.

Chocolate.—Scrape fine an ounce of Baker's chocolate, add two tablespoonfuls of sugar and one tablespoonful of hot water; stir over a hot fire for a minute or two until it is smooth and perfectly dissolved, then pour into it a pint of boiling milk; mix thoroughly, and serve at once. If allowed to boil after the chocolate is added to the milk, it becomes oily, and loses flavor. Broma is made in the same way.

In the administration of food, it should be remembered that *a little food at a time, and often repeated*, is the general rule for sick people. Frequently, where a physician orders beef-tea, or something of the kind, the nurse will try to give a cupful every three or four hours. Generally the patient's stomach rejects it, whereas had a tablespoonful been given every half hour or so, it would have been retained, digested, and have done the patient the intended good.

SUSTAIN STRENGTH IN THE MORNING.

The majority of weak patients are unable to take food of any solid kind before eleven o'clock in the morning, and before that time comes around they are sure to be pretty well exhausted. This would not be so apt to occur if a spoonful of beef-tea, of wine and arrow-root, of whiskey-punch, or of whatever stimulant has been ordered by the physician, could be given him every hour or two, from the early morning until then. Perhaps by noon, or even sooner, he might be able to eat food as substantial, as a mutton-chop or piece of nicely broiled beef-steak. If food as solid as these can not be taken, of course you will persevere in the use of beef-tea, prepared milk, or whatever else the physician has ordered.

BRANDY AND WHISKEY.

In this connection it may be well to make a few remarks about the use of brandy, whiskey, and other stimulants for the sick. They are always easily had, and, therefore, oftenest used. But where there is any hereditary *tendency* to the use of such things, where the individual has ever shown a disposition to use them as a beverage, or where the associations of the person in the future may peculiarly expose him to solicitation, none of these stimulants, under any consideration, should ever be ordered, unless there is absolutely *no alternative*. This is said because, in many instances, substitutes can easily be found by the physician.

FOOD AT THE BEDSIDE.

Never leave the patient's food untasted by his side, from meal to meal, in the hope that he will eat it. He never does eat it,

and you only add disgust to his distaste by leaving it in sight. Let the food come at the right time, and if it is not eaten, be sure to take it away in a little while.

OVERLOADED PLATE.

A sick person's plate should never be overloaded with food, nor should he ever see or smell the food prepared for others. While eating, the patient should be left alone as much as possible. Whatever is prepared for the sick must always be of the first quality, and cooked with the greatest care. Remember that sick-cookery should at least do half the work of the patient's weak digestion.

"DROPS."

Always keep your patient's cup and saucer perfectly dry, so that no drops of liquid will fall on the sheets, pillow or dress. You have no idea what a difference this minute want of care makes to the comfort and even willingness of the sick to take food.

WHAT FOOD.

Common Errors in Regard to Diet.—Beef-Tea. Florence Nightingale says, on this subject, that one of the most common errors among women in charge of the sick, respecting sick diet, is the belief that beef-tea is the most nutritive of all articles. "Now, just try," she says, "and boil down a pound of beef into beef-tea, evaporate the water, and see what is left of your beef. You will find that there is barely, a teaspoonful of solid nourishment to half a pint of water in beef-tea." There is, nevertheless, a certain nutritive value in it, as there is in tea: we do not know what. It may safely be given in almost any inflammatory disease, but it should never be alone depended upon, especially where much nourishment is needed.

EGGS OR STEAK.

Again, it is an ever ready saying "that an egg is equivalent to a pound of meat," whereas it is not so at all. Much trouble

has occurred from this mistaken notion. *It is a question whether, weight for weight, eggs are equal to beefsteak.* Also, it is seldom noticed with how many patients, particularly of nervous or bilious temperament, eggs disagree. Most puddings made with eggs are distasteful to them in consequence. An egg, whipped up with wine, is often the only form in which they can take this kind of nourishment.

MILK, BUTTER, CREAM, ETC.

Milk and the preparations from milk are most important articles of food for the sick. Butter is the lightest kind of animal fat, and though it wants the sugar and some of the other elements which exist in milk, yet it is valuable, both in itself as fat, and in enabling the patient to eat more bread.

ALBUMEN.

The reason of it is just this: Animals require in their food an albuminous constituent, a starchy one, and another of fat. The first or albuminous (the purest form of which is the white of an egg), enters largely into the formation of the human body, the muscles being chiefly composed of it.

SUGAR.

The second, or starchy component, does not enter into the structure of the body as such, but it is converted into sugar during digestion, and has much to do with the formation of the tissues and heat.

OILS.

The oily parts enter largely into the composition of the brain, nerves, and, in fact, all other portions of the body, and when broken up and consumed, supply a good portion of the fuel for heat of the body.

COMMON SALT, PHOSPHATES, ETC.

Besides these three mentioned, which are most conspicuous, there are other substances, as common salt, phosphates, iron, etc. These are supplied through food, but our space will not permit

more than a mere reference. All food *must* contain these substances in proportionate quantities. If it does not, the appetite *craves* the one wanted, and if not properly supplied, the part of the body suffers into which the wanting component enters.

FOOD MUST HAVE IN IT WHAT THE SYSTEM WANTS.

As all food which properly sustains man must contain these principles, it will be readily seen that those vegetable substances which are composed of but one of them, or even two, can not *alone* support life. Experience confirms this view. Oils or fat are useful as oils or fat, but can not supply the place of starch or sugar; nor can starch or sugar supply the place of albumen or flesh.

VARIETY IN FOOD.

To obtain all these needful constituents, we must seek a variety in our food, and not depend exclusively upon any single one for continual use. There are some apparent exceptions to this rule, as in the case of milk, which we know is capable, under certain circumstances, of sustaining life for a length of time; but the exception is only apparent when we examine into the matter.

MILK.

Milk has these necessary articles in suitable proportion, more than any other food, perhaps in general use. It has the starchy part advanced a step into the shape of sugar, the albuminous part as the cheesy constituent, and the fatty as the creamy element. Hence, milk might be taken as a sort of representative diet, and better adapted to sustain the body in health, or to strengthen it in sickness, than any single article of food. But the writer would again caution the reader to observe the greatest care in the use of milk, whether in health or sickness. It is now an admitted fact or truth that cows are subject to tuberculosis or consumption, altogether similar to the phthisis of the human kind and numerous undeniable instances are on record, where this dread disease was conveyed through this source to man and many have fallen victims to the same. Tuberculosis may exist in cattle, when.

outward appearances do not even indicate it, as the following clipping from *The Philadelphia Record* of recent date goes to show :

“ A story of a happening in Yonkers, N. Y., that is now going the newspaper rounds deserves more than casual attention. Colonel Beecher, who has a residence in Yonkers, in order to provide his family with milk of extra quality, bought himself two high-priced, registered Jersey cows, and was well satisfied with his bargain. Sometime afterward his grandson was taken sick without apparent cause. After a while symptoms of tuberculosis were developed, and finally there became no doubt of the nature of the disease. The child died, and no explanation of the cause of his malady could be found. At the suggestion of the physician the cows were examined by a veterinary practitioner, who pronounced the animals apparently sound, but said they had been so well cared for that internal disease might not outwardly manifest itself. To solve the doubt Colonel Beecher had both animals killed and subjected to careful post-mortem examination by experts. The result of the autopsy showed that the cows were tuberculous, and left no doubt that the child, who had fed upon their milk, had therefrom acquired the disease of which he died.

This sad tale develops no new danger. It is only an added proof of the possibility of tuberculous infection from the milk of cows afflicted with tubercular disease, and of the peril latent in using milk even from apparently healthy animals. The extent of tubercular infection in cows in some measure explains the spread and pertinacity of consumptive disease in this country, where milk is a food of general use. Beef, butter and cheese may also carry the infective germs. The users of milk may protect themselves by boiling it before they use it. Thorough cooking is a preventive ; but final and complete relief should be sought in the killing of diseased cattle. Necessary inspection and incidental expenditure for the preservation of life and health should receive the strong support of public opinion.”

HOW TO BOIL MILK.

Boiling milk or sterilizing it, as doctors usually call it, is very necessary aside from the danger of conveying these germs, especially

in hot weather, or when, from any cause the milk is impure, or in cases of existing bowel troubles as it also assists in preserving the milk and prevents or delays souring. In hospitals and among the wealthier classes an apparatus for boiling milk is used, which is called a *sterilizer* but whenever sterilization becomes necessary, there is no need for having at hand any elaborate apparatus. The milk may be simply scalded, or heated to, or nearly to, the boiling point in a common porcelain vessel; poured into clean bottles and well corked, and so kept for use; or what, perhaps, is better, put into stout, open-necked bottles, subjected then to steam for fifteen to twenty minutes, then well corked and kept ready for use when wanted.

NOTE.—Much is now heard about infant or “baby foods,” or patent preparations of food for children, and their merits so much lauded by unscrupulous advertisers, as substitutes for milk, particularly in cities and towns, that mothers frequently refuse to suckle their infants, or to give them cow’s milk, being led astray by these deceiving and dazzling advertisements. It is not my object, however, to discuss the relative merits of each and every one of these preparations, but I will quote what the eminent Professor Wm. Pepper writes on the subject, in his valuable work on “Practice of Medicine:”—“It is not within the scope of this paper to give details with regard to the diet, of either the sick or the well, but it seems proper to remark with regard to the feeding of infants, more especially in our large cities in the summer months, that all the various patent preparations for infant’s food are more or less pernicious, and should be discountenanced by all medical men. *The proper food* of an infant is milk—human milk—if it can be had, cow’s milk, if it cannot. If it be remembered that an infant suffers from thirst as well as hunger, and care be taken to give it enough cool water to quench this thirst, it will be found that in most cases it will thrive on pure cow’s milk.”

CHAPTER XVII.

DIGESTIVE TRACT.

Our Digestion—Where and How Our Food is Digested and Absorbed into the Blood. The Function of the Digestive Fluids. Dyspepsia and Its Causes. The Proper Diet for Dyspeptics. Treatment of Indigestion. Gastralgia or Cramp of the Stomach. An Enumeration of the Causes. The Passing of Gall-Stones. Treatment of Cramp. Habitual Constipation, Causes and Treatment.

The process of digestion is a physiological act and is described at great length in the medical works treating on that branch of Medicine and it is timely, that the laity should better know what, when, and how to eat, and at least more fully understand how the food is digested and assimilated (taken up into the blood). For if digestion were better understood by the people and the laws governing the same were properly obeyed, there would very often be much less suffering or sickness and consequently exceedingly more happiness. A great many people seem to think that the act of digestion is wholly performed in the stomach, but such is far from the truth. While the stomach serves the purpose of a receptacle for the food and performs certain important digestive processes, its main function is to soften the food, melt the fats, etc., while by its churning action and by its digestive ferment, the gastric juice, it disintegrates muscular and other fibers and transforms the food mass into a grayish, pulpy liquid resembling pea-soup, which is called chyme. This passes the pyloric orifice into the small intestine where it is subjected to the action of the intestinal juice, the bile, and the pancreatic juice and it is here, that the principal part of digestion takes place. The chyme coming from the stomach is here converted into a milky liquid called chyle and the fats, having now been emulsified and partly saponified by the action of the pancreatic juice and bile, the same

is absorbed by the lacteals and thus taken into the blood. This then, is the way our food is digested and our bodies nourished.

I should have remarked that digestion begins in the mouth ; the food is masticated by the teeth, moistened and softened by the saliva and the starchy elements are converted into sugar.

DYSPEPSIA OR INDIGESTION.

The name signifies simply difficulty of digestion, but conventionally, it is applied to cases in which the digestive processes are disturbed in various ways, as well as to the cause in which their performance appears only to be difficult. The affection is of two forms, being acute or chronic in nature. The acute form, that is where it has only existed for a few days or a short time, and is characterized by weight, fulness or pain in the pit of the stomach ; perhaps nausea or vomiting, or after a time looseness of the bowels, some heat, pain in the head and general lassitude, succeeded by loss of appetite, coating of the tongue, with unpleasant taste in the mouth ; is very readily relieved by a mild purgative, especially a few grains of calomel in the evening, followed by a Seidlitz powder in the morning, and regulated diet for a few days, with perhaps, some tonic remedy for a short time. But the chronic form must be well understood in order that a successful treatment may be obtained. The complaint is so well understood and individual cases differ so largely in symptoms, etc., that the writer does not deem it worth the space to describe the disease at length, but takes the liberty of merely quoting in part—in reference to its management and treatment—from the valuable work by the eminent Professor Flint.

TREATMENT.

“ In the management of dyspepsia, as of other affections, the first point is to remove or obviate causes as far as this is practicable. The practitioner may be able to control causes relating to dietetic errors, but he may not be able to reach those connected with the mind, and hence the difficulty in affecting a cure. Measures of treatment may be arranged in three divisions, namely : 1. Those

relating to diet and regimen ; 2. Measures addressed to the mind ; and, 3. Medicinal remedies.

1. If the affection has been induced by dietetic excesses, it is sometimes useful to give the digestive organs a short period of rest, and, with this view, to reduce the diet, for a time, below the wants of the system. This, however, should be but temporary. A cure is not to be affected by persisting in this course. Not only is the system reduced, but the digestive functions are impaired by too great or too protracted abstemiousness. Dyspepsia is, in fact, perpetuated, and may be produced, by attempts to live on as little and as coarse food as possible. Persons who think it vulgar, unrefined, or worldly-minded to eat well, are apt to be subjects of dyspepsia as well as of other affections. This is true also of those who fancy that most maladies arise from over-eating, and that the great problem of health-preservation is to learn to eat prudently. The object of treatment is to bring the digestive powers up to such a point of improvement that particular care in diet is not requisite.

As regards the diet for dyspeptics, there are no rules suited to all cases. Individual experience, in each case, is not to be altogether ignored, but there is a liability to error in regard to this experience. Unusual difficulty of digestion, or indigestion, after a meal, is often imputed to certain articles of food, when it was due to some other incidental circumstance. Idiosyncrasies in relation to particular articles of food are far less common than the statements of patients would lead one to suppose. In general, articles which are wholesome to most persons are not unwholesome to any. It is rarely true that "what is one man's meat is another's poison." In most cases animal food is best digested, especially old and tender meats plainly but well cooked ; but a milk and farinaceous diet is found to agree best. An obvious reason why so many persons imagine they do not digest milk as well is, it is apt to be taken as a beverage after or with solids, the fact that it is, in effect, a solid article of food not being appreciated. Bread to be readily digestible, should not be new, nor is it desirable that it should be stale. Well boiled rice, corn-meal mush, and other analogous farinaceous preparations, are easy of digestion. Crude vegetables are digested

with more difficulty, but they are not, as a matter of course, to be interdicted. Some dyspeptics find even the much abused cucumber grateful to the stomach as well as to the palate. Pastries, rich puddings, and sweetmeats are generally to be eaten sparingly or discarded. Ripe fruits in proper moderation are useful. It is never advisable for the patient to adopt a restricted range, or any particular system of diet. On the contrary, it is important to persevere in attempting to digest all the varied forms of wholesome food, not being restricted to meat or a vegetable diet, but aiming to eat like persons in health, without the need of particular care in the selection. Different kinds of food are suited to different cases according as the functional disorder is chiefly gastric or intestinal. If gastric, farinaceous articles will be likely to be best suited, as these are digested mainly in the small intestine. Fatty articles may be well digested in these cases. On the other hand, if the disorder be intestinal, farinaceous and fatty articles of food will be likely to be difficult of digestion, and albuminoid substances or an animal diet will be found to occasion less inconvenience. Restriction to a few meals a day is not an uncommon error. If a patient have no appetite for breakfast, an early lunch should be taken. If the dinner be near the middle of the day, and an early tea be taken, some light food in the evening is advisable. Long intervals between the periods of taking food tend to weaken the powers of digestion. Food should be eaten slowly. Deliberate mastication prepares the food for the action of the gastric juice. Moreover, slowness in eating gives the stomach a chance to express satiety, and is, therefore, a protection against over-eating. Errors, however, in this respect are apt to be over estimated. With regard to the use of wine or spirits, the danger of intemperance is always to be considered, especially as dyspepsia not infrequently leads to a morbid desire for stimulants, and in view of the fact that the mental state is favorable for the formation of intemperate habits. Yet an alcoholic stimulant taken with meals is often useful until the normal powers of the digestive organs are restored. Stimulants should never be taken when the stomach is empty. It may be well to remind the practitioner that it is unphilosophical to judge concerning his patients from the conclusions derived from his own

personal experience. The physician who has his notions of what kinds of food agree with himself best, is apt to apply these notions indiscriminately to his patients. To consider fully the subject of dietetics would be incompatible with the scope of this work ; but, practically, this is less desirable than many might suppose. My experience has led me to adopt a plan of dietetic treatment which has the merit of great simplicity, and which I have found to be very successful. I am accustomed to say to patients that if they expect to acquire a good digestion, they must not pay particular attention to diet ; that they must follow the dictates of instinct rather than any precise rules, as respects the articles of food, the quantity to be taken, and the time of taking it. I have never known a dyspeptic to recover vigorous health who undertook to live after a strictly regulated diet, and I have never known of an instance of a healthy person living according to a strict dietetic system who did not become a dyspeptic. On the other hand, in a great number of cases, in which persons had been sufferers for years on a regulated diet, health has been speedily regained by simply eating in accordance with appetite.

As regards regimen, the clothing of dyspeptics should be such as will secure uniformity of temperature and maintain the functions of the skin, without over-accumulation of heat or exciting perspiration. A sense of comfort is the criterion in this regard. Exercise is of importance ; but to be useful, it must be taken with a motive and end, aside from the sanitary object. Exercise taken simply as exercise, tends to keep the mind of the patient on the disorder, and will not be likely to be persisted in. There is a risk of resorting at once to over-exercise, a too violent change of habits in this regard proving hurtful, and discouraging the patient. The exercise should be in the open air. A change of business from one requiring sedentary habits, to one involving out-of-door occupation is often advisable. Travelling, especially in foreign countries where the attention is diverted with a succession of novel scenes, is highly useful. Sir James Johnston said that no case of purely functional dyspepsia could resist a pedestrian tour to the Alps. 2.—The moral treatment consists first in establishing confidence by attention and sympathy.

Inattention to the details into which dyspeptic patients are fond of entering, and ridicule of hypochondriacal fears prevent the physician from being of service to this unhappy class of patients, and lead them to seek for aid from secret remedies and quacks. If the confidence of the patient be secured, the assurances of the physician will often remove needless apprehensions, and afford an encouragement which, in itself, will contribute not a little toward improvement. If the patient be convinced that his mental state is in a measure due to a disordered condition of the body, he derives consolation and encouragement from this belief. The treatment relating to the mind will embrace, as far as possible, measures having reference to the removal of mental causes which may have produced or which perpetuate the affection. It is important to incite to occupations which divert the attention from the bodily functions, especially during the process of digestion. It is desirable that the mind should be pleasantly occupied. It is often observed by dyspeptics that if they dine alone, and are left by themselves to watch the sensations connected with digestion, they are sure to suffer, whereas they experience no inconvenience from a greater amount of indulgence in eating if they be in agreeable company during and after dinner. Popular works on indigestion do harm by directing to the subject the attention of those prone to dyspepsia. The benefit of travel is, in a great measure, moral, involving recreation as well as exercise, and keeping the mind occupied with extrinsic subjects.

The division of the treatment which relates to medicinal remedies, relatively, is least important, but by no means unimportant.

When there is much morbid sensibility of the stomach as denoted by great and perhaps constant pain in the pit of the stomach, small blisters, by mustard, croton oil, etc., may give relief. The benefits, derived by these means, is probably in part due to a moral effect. If anæmia be associated, as is frequently the case, the preparations of iron, combined with the vegetable tonics are indicated; the tincture of the chloride of iron is perhaps the best, and owes its virtues perhaps, greatly to the hydrochloric acid which it contains, as this acid exists naturally in the stomach,

it may be combined with equal parts of the tincture of colombo, thus :—

℞

Tincture Chloride of Iron,	one ounce.
Tincture Colombo,	one ounce.

Dose. 20 to 30 drops in water before meals.

The following prescription is a very agreeable remedy in these cases :

℞

Tincture Chloride of Iron,	one ounce.
Dilute Phosphoric Acid,	one ounce.
Syrup of Ginger or Orange,	two ounces.

Dose. Half a teaspoonful, in water, before eating, three times a day. The citrate of iron and quinine, which can be obtained at any drug store, is an excellent form of tonic in dyspepsia where anæmia exists. A two grain quinine pill before meals, and the vegetable bitters like the compound tincture of gentian or tincture of quassia in teaspoonful doses before meals are of the very best stomachics, being tonic and good appetizers. Where habitual constipation exists laxatives as recommended in treating on that complaint should receive proper attention. Salicin, in ten grain doses dissolved in a wineglass of water and taken just before meals is a capital stomach tonic. The benefit derived from this remedy is often remarkable.

Symptoms characterizing certain cases of dyspepsia claim particular remedies, like pyrosis (water brash or heart-burn), which is generally relieved by subnitrate of bismuth in doses of 20 grains, combined with powdered cinnamon, in conjunction with the measures relating to diet, regimen, etc., followed by tonics. Lime-water, bicarbonate of soda, carbonate of magnesia, the two latter especially if there be constipation are similarly effective. Flatulency or gas in the stomach or bowels is to be palliated by carminatives (medicines that expel gas), the aromatic bitters, asafoetida, charcoal powder, etc. As this is principally caused by intestinal digestion, diet which is chiefly digested in the bowels should be avoided as much as possible. The tonic remedies recommended before will remove

this annoyance. Small doses of strychnine or nux vomica in the form of tincture or extract, are useful in these cases. The writer has had great success with the following formula :

R

Compound Tincture of Gentian,	½ pound.
Diluted Nitro Muriatic Acid,	2 drachms.

M. Dose. A teaspoonful in water before meals.

STOMACH CRAMP.

Gastralgia, or cramp of the stomach, is a neuralgic affection characterized by pain, more or less intense, referred to the region of the stomach. The affection is very frequently associated with dyspeptic disorder ; in short, gastralgia exists when pain and other circumstances denote an affection of the same pathological character as neuralgia in other situations. The pain is often very excruciating, subduing the strongest resolution ; the patient writhes and groans with intense suffering. The pain varies much in different paroxysms or exacerbations (increase in the symptoms of a disorder) in the same case. It may have so little intensity as to occasion only annoyance, or it may be so severe as to give rise to extreme suffering. The character of the pain is described by patients as burning, lancinating, or gnawing. Frequently the pain extends from the immediate region of the stomach in different directions, namely, to the back, into the chest, and, laterally, into the right and left sides under the small ribs. A sense of constriction or compression frequently accompanies the pain ; vomiting may take place, but its occurrence is rare, and occurring, especially, when indigestible or improper food is the cause of the cramp, immediate relief is often obtained. Generally tenderness over the pit of the stomach is wanting, and some relief may even be afforded by pressure. These attacks are generally attributed to spasm or cramp, and the affection has been called "colic of the stomach." It is difficult to say how much suffering is due to spasmodic contractions, and how much to neuralgic pain. Gastralgia, in some persons, is produced by certain articles of food. Strawberries, and other articles of food, for example, have been known to prove in this way poisonous, and I have met with a patient who had always an

attack after eating honey. These, like other idiosyncrasies or peculiarities, are inexplicable. Attacks appear to be sometimes attributable to exposure to cold, and to fatigue from over-exercise. Gastralgia, or cramp of the stomach resembles gastritis or inflammation of the stomach, in pain and otherwise, but the immediate treatment is the same in all respects. Vomiting may be wanting, and, if present, is not as important or prominent a symptom as in inflammation of the stomach. The passage of gallstones or hepatic colic offers many symptoms exactly like in this affection and the diagnosis is not at once readily made, nor does it matter much, in regard to the treatment of pain, as the same is similar, as far as that is concerned. Although the suffering is as great as in any other affection, there is little or no danger. It may be doubted whether this affection, alone, ever proves fatal, and the sufferer may count with great confidence on procuring speedy relief by means of the plan of treatment herewith suggested. Indeed the affection is one of those which exemplify in so striking a manner, the resources of medicine. It is apt to be persisting and its permanent cure in different cases, is extremely variable. In this respect it resembles other neuralgic affections. It may occur at shorter or longer intervals for many months, and it sometimes persists for many years. As regards prognosis, the worst to be apprehended is the protractedness of the affection. It does not tend to destroy life either directly or by eventuating in some other more serious disease. It is not prudent for a physician, to predict that the affection will end speedily, or within any definite period; yet, not infrequently, spells do re-occur, and patients remain free from paroxysms all their lives. But in certain cases it is one of the affections most rebellious to therapeutical measures, but, as stated in other cases, it is readily amendable to treatment. With the affection, in some cases, are associated dyspeptic ailments, and in other cases there is no disorder of digestion. Paroxysms or exacerbations sometimes appear to be brought on or provoked by eating or by food in the stomach, but, as a rule, relief is felt after eating. The desire for food is oftener increased than diminished. Constipation exists much oftener than looseness of the bowels. Distension of the stomach or intestines

by gas or wind (flatulency) is sometimes associated. The pulse preserves its normal frequency and the temperature of the body is not increased.

Patients who have suffered from the malady for some time are apt to become morose and melancholic. Gastralgia, rarely, if ever, occurs under the age of puberty, or in old age. It is generally considered that women, much more than men, are liable to it, but of 39 cases analyzed by Valliex, only 20 were females. It affects those of good constitution and the robust, as well as the feeble and delicate. Persons of sedentary habits are more likely to be affected than those engaged in active pursuits. Prolonged mental depression has been supposed to favor its occurrence. It appears in some cases to depend on the rheumatic or gouty habit. Like neuralgia, in other situations, it may be the effect of malaria. Chronic gastritis or inflammation of the mucous membrane lining the stomach, is a frequent cause of the disorder. Finally, causes which induce anæmia, or lead to debility, may be more or less involved in its production.

TREATMENT.

Anodyne remedies are generally indispensable in relieving the paroxysms of pain in this affection, chief amongst them is opium. Tincture of opium in doses of 30 to 60 drops, or sulphate of morphine in $\frac{1}{4}$ grain doses, (the latter preferable, injected by the hypodermic method) at intervals of three quarters of an hour, until the pain is relieved, but in this, as in other painful affections which are apt to be persistent, the liability to the formation of a habit of using opium is to be considered. Moreover, the continued use of opium is objectionable on account of its interference with the appetite and digestion, and, in this way, it may contribute largely to perpetuate the affection. Sulphuric ether in doses of one or two drachms given simultaneously with the opiates named, not only increases their efficacy, but mitigates their unpleasant after-effects. Subnitrate of bismuth in a drachm dose in combination with morphine is a very valuable remedy in these cases. Belladonna, hyoscyamus, etc., are good substitutes for opium, or where the latter cannot be taken, and are equally good palliatives.

Opium produces cramp of the stomach in some people, just as it will cure it in others. Fomentations in the form of poultices and embrocations (liniments) containing opium, aconite, chloroform, etc., will sometimes succeed in affording relief. Cold applied to the pit of the stomach has been found effectual. Where the cramp is caused by overloaded or undigested food, nothing answers better than an emetic or vomiting, produced as suggested in another part of this book. In cases where the stomach is empty, large quantities of hot or warm water drunk in abundance frequently induces instantaneous relief. Sometimes cold water is likewise beneficial. An alcoholic stimulant, where the pulse is feeble and the surface cold is sometimes a useful auxiliary. Rest, regulated diet, and a mild cathartic or laxative, provided the bowels do not act, will contribute the proper subsequent treatment in an attack of cramp. Remedies and measures to improve the digestion when disordered, or proper treatment to remove the *cause* should be employed, after an attack of gastralgia in order to avoid subsequent seizures. Of curative remedies, quinine in full doses is perhaps the most successful. The doses should be sufficiently large to produce the physiological effect, that is, buzzing in the ears, etc., which should be steadily taken for about two weeks. If, at the end of this time, a curative effect be not exerted, it is useless to continue the remedy longer. Other remedies, such as large doses of sub-nitrate or bismuth, that is, 30 grains, three or five times a day. Tonic doses of tincture of nux vomica or sulphate of strychnine and the vegetable bitters: quassia, gentian and colombo, combined with the mineral acids, may also be tried. When the trouble is caused by gastritis or a catarrhal condition of the stomach, the writer has had wonderful results with the following prescription:

R

Oxide of Silver,
Extract of Hyoscyamus,

Of each 6 grains.

To be made into 12 pills, dose one pill before each meal. Measures of treatment other than the employment of direct curative remedies, are of the utmost importance. Change of habits from those of sedentary to active life, is of the first importance in

certain cases. The moral influence of recreation, change of scene, etc., is often of more service than medicines. The diet should be nutritious, but more or less care should be observed. Alcoholic stimulants in moderation with meals may be advised for a time, but great care in this respect should be dictated or observed so that the person does not become addicted to their use. Tonic remedies in most cases continued for a long period, and varied from time to time, are advisable. Preparations of iron are especially indicated if anæmia be present. In short, dyspeptic ailments, which may or may not be co-existing, are to receive appropriate treatment and the reader is referred to the article in this book in reference to the same.

HABITUAL CONSTIPATION.—CAUSES AND TREATMENT.

This affection is so well known that it needs but little description. The writer thinks he can not do better than quote from Professor Flint's able treatise on Constipation in his "Practice of Medicine." "The terms constipation and costiveness are commonly used as synonyms, denoting insufficiency of evacuations from the bowels. The latter of the two terms is sometimes used to denote a less degree of insufficiency than the former, the number of dejections being normal, but the quantity deficient, and the act of defecation labored. Constipation exists as a functional disorder, and it is incidental to various affections. As a functional disorder it is extremely frequent, and, although not a serious affection, it claims attention on account of the inconvenience which it occasions, its importance as leading to other ailments, and the difficulty often of its removal. The affection is seated in the large intestine. The anatomical arrangements of this portion of the alimentary canal show it to be intended to serve as a temporary depot for fecal matter, thus providing against the need of frequent acts of defecation. The contents of the alimentary canal are propelled more slowly in the large than in the small intestine, *first*, because the circumference of the former is larger in proportion to its muscular power; *second*, in the ascending part of the colon and of the sigmoid flexure, the contents are propelled in opposition to gravitation; *third*, the liquid portion of the

contents is absorbed in their passage through the small intestine. Experience shows that one free evacuation from the bowels daily is the rule in health. But this rule is not without exceptions. Some persons have, habitually, two or three evacuations daily, and, on the other hand, some have an evacuation regularly every second or third day, without any of the inconveniences of constipation; in fact, persons of the latter habit are apt to experience discomfort if, temporarily, evacuations take place daily. Constipation gives rise to various local morbid effects, such as a feeling of pressure or weight in the perinæum, a sense of abdominal distension or uneasiness, flatulency, diarrhœa, and colic pains. Hemorrhoids are often attributed to this affection. It gives rise, also, to pain in the head, dullness of the mind, flushing of the face, palpitation, and general malaise."

"Various circumstances may contribute to this affection. The abdominal muscles play an important part in the act of defecation. These muscles become weakened by obesity, and, in females, as a result of pregnancy. Deficiency of bile and of the intestinal secretions may enter into the causation of some cases. Sedentary habits are supposed to favor the affection, but it is probable that other causes are more operative, and especially inattention to the calls of nature."

The management of habitual constipation often requires much care and perseverance on the part of the physician and patient. The object is to secure regularity and sufficiency in the evacuation.

The means which may be employed are various. They may be arranged into dietetical, medicinal, and mechanical. The dietetical means consists in using freely articles which leave, after digestion, a bulky residuum, namely, cabbage, lettuce, and the various vegetables known in this country as greens; or articles having a laxative property, such as molasses, prunes, figs, etc.; or articles which stimulate or irritate the alimentary canal, namely, bran-bread, cornmeal groats, or cracked wheat. This diet will sometimes succeed in obviating habitual constipation.

The medicinal means are laxative remedies. With regard to these, a general rule is, the remedy chosen should be mild, and the quantity as small as will suffice for the object. Purgation is

to be avoided. Another general rule may be stated : If more than one *small* dose of laxative be required, the remedy is to be given in small doses repeated twice or thrice daily, rather than given in a single dose. In this way the object is affected with a less amount of medicinal impression, and there is less risk of purgation. As regards the particular remedy, aloes are especially suited to the desired object. A very small proportion of aloes, a small fraction of a grain in each pill will often suffice. Laxative remedies are not to be continued for a longer period than is required to secure an habitual action of the bowels.

The mechanical means consist in the use of enemas and suppositories. The regular use of an injection of cold water, at the same hour daily, is a simple and sometimes an effective measure. In some cases a suppository of soap answers the purpose of provoking a regular and sufficient evacuation. The cocoa-nut butter may be used for this purpose. Common molasses candy answers equally well, an oval mass of the size of a pigeon's egg being introduced within the rectum. This, however is only a temporary expedient, ceasing usually to be effective after a time. The most important part of the management in cases of habitual constipation is not embraced in the foregoing measures. One of the most important rules is to solicit an evacuation at the same hour daily. Another rule, not less important, is never to neglect or postpone the call to defecate, when it occurs either after or before the time for the habitual performance of the act of defecation.

By the imperfect and impunctual performance of excretory functions, our food becomes our poisons. The lengthened detention of fæces in the bowels, like the neglected urine in the bladder, begets a host of disorders, in man as well as in woman. Irregularity or postponement in the evacuations of the body is perhaps the most common cause of uterine and pelvic diseases known. For not only are local congestions produced mechanically by the irritation or the pressure from hardened fæces, and displacements of the womb, brought about by the straining effort to empty the bowels, but the whole portal (liver) system becomes deranged. Costiveness is the recognized cause not only of hemorrhoids, of pelvic and uterine congestions, and of disorders of the digestive,

but also of fæcal poisoning. For if diseases breed from bad drainage and defective sewerage *without* the body, how much more from bad drainage and defective sewerage *within* the body ! Excretions retained in the body ferment and decompose ; the pestilential gases thus generated, and the products of tissue waste, being, resorbed, degrade the blood, disable nerve centers ; and paralyze the action of vital organs.

CHAPTER XVIII.

PURE AIR AND VENTILATION.

Pure Air, and Its Effects on Health. Diseases Resulting from Bad Ventilation and Impure Air. Bad Air Compared to Soiled Water. Pure Air in the Bed-Room. Methods of Ventilation. The Need and Uses of Sunshine. The Proper Care of School Houses.

Most persons of average cleanly habits in this country would object to being compelled to wear underclothing that had just been removed from the body of another man, or to use another person's toothbrush, or to eat food that had been partially masticated by another. They do not, however, often object to drawing into their noses, mouths, and lungs, air that has very recently been inside another man's body; and upon the whole it is fortunate that they do not, for they cannot very well help doing so under the ordinary conditions of civilized life. The evil results of the continuous inhalation of impure air are not in most cases, such as to attract notice unless the impurity is very considerable or the conditions of moisture and temperature connected with it are such as to produce evident discomfort. The injury inflicted on the body by breathing air deficient in oxygen and contaminated with animal exhalations is usually not perceptible until after a considerable period of time, and is then often attributed to other causes.

Bad air produces bad health. If you find frosted window-panes, damp pillows and walls, and feel languid, with probably a slight headache when you wake on a cold morning, you can feel pretty sure, that the ventilation is imperfect. In the winter time the air is frequently shut out to keep out the cold, and many suffer from the ill effects of an insufficient supply of oxygen, and the breathing of air charged with carbonic acid and other deleterious

substances thrown off by exhalation. The evidences of bad ventilation may not be decidedly marked, but the silent and insidious injury to health goes on. A family can be comfortable with less heat and more fresh air than is generally supposed, and in rooms heated by furnaces or stoves, and lighted by gas, too much care regarding ventilation cannot be exercised.

The diseases which are especially produced or aggravated by defective ventilation are chronic inflammatory affections of the throat and lungs and certain forms of contagious disease, more especially typhus fever, diphtheria and phthisis (consumption). With regard to phthisis, this is due in part to the fact that the probabilities of inhaling the specific bacillus or its spores are greater where a number of men or animals are repeatedly breathing air containing the dried sputa and other excretions of their companions, and partly because the inhaling of air loaded with dead or dying organic matters tends to accumulate in the air-passages materials well suited for the nourishment of the specific germs, which in the absence of such food-material would be killed by the living tissues with which they would come in contact. Ventilation is the continuous and more or less systematic changing or renewal of the air in a room or other enclosed space. To effect it the external air must be introduced in a continuous current and diffused throughout the room, and a corresponding quantity of air must be continuously taken out.

Perfect ventilation would ensure that a man inhaled no air which had recently been in his own lungs or in those of his companions. Good ordinary ventilation does not aim at this perfection; it merely ensures that the fresh air comes in in sufficiency, and is so thoroughly mixed with the air in the room that the products of exhalation and respiration are so diluted that when a man having a normal sense of smell comes into the room from the outside air he will perceive no unpleasant odor. To secure good ventilation in a room it is necessary not only to introduce and remove the requisite quantity of air, but to secure a thorough distribution and mixing up of the air in the room, and to do this without causing draughts which will be unpleasant to the occupants. Air has a strong tendency to adhere

to surfaces against which a current of it strikes, it does not rebound like a billiard ball from a cushion, but spreads out in a thin sheet on the surface of the wall, roof, ceiling, or floor against which it impringes. If fresh air be introduced through registers in the floor, it rises directly to the ceiling, where it spreads out, and gradually descends as it becomes chilled. A living man is usually from twenty to thirty degrees warmer than the air of his room in winter, and therefore acts as a little stove, causing an ascending current of air. The air which he exhales is also warmer than the surrounding air and rises. Whenever an unpleasant odor is detected, you may be *certain* that there is something in the air which should not be there, and if permitted to remain, it may sooner or later be attended with evil results. The true means for relief in such a case is, *removal* of the offending cause, whatever it may be. Sometimes this can not well be done, so we must lessen, as much as lies in our power, its tendency to do evil.

Impure air can no more purify impure soiled blood than soiled water can cleanse soiled clothes. There is one thing which can do it, and that is, *plenty of pure air*. A certain quantity of pure air added to it, dilutes the bad air and makes it *less* noxious, while if a certain quantity *more* is added, the impurity of the air is destroyed, as is the case with impure water. Any person can judge of this from the good effect of much pure air upon bad air. An ordinary man spoils not less than a gallon of pure air every minute, this is sixty gallons an hour, or nearly five hundred in eight hours. In round numbers, about *twenty-five flour barrelsful of pure air are required in a single night for breathing purposes alone*.

A great many people have an idea that this letting-in of pure air, or "ventilation," means raising a window a little from the bottom, or opening a door a short distance. They never mind much where the window or door opens into—it is all the same, so they open somewhere. The idea is not correct. Ventilation as has been said, means providing a means for the *pure* air to come *in*, and for the *bad* air to get *out*. This can usually be accomplished by drawing down the top sash a few inches, which will let the heated impure air *out* of the room, and by raising up the

lower sash a few inches to let the fresh air *into* it. If you wish to know that the hot air really goes out at the upper opening, sometime hold a lighted candle near it, when the blaze will be carried outward by the force of the escaping current; and if you will hold it to the opening below, the flame will point inward from the current of cool air which comes from without. A more certain way to secure the proper amount of fresh air is to have an opening on opposite sides of the room, so that the air will circulate *through* the chamber as much as possible. *Remember not to have the current play over the bed on which a person lies sleeping, as the person might catch a cold.* But if there is no other way, and some rooms are so constructed that no other means appear possible, it is better to open the windows, and escape the effects of the "draught," by putting an extra covering over the person. Should there not be two windows in the chamber, raise the only one you have and open the door a little. If no means suggest itself to you by which a desirable amount of pure air can be permanently secured, bear the matter in mind, and some day, when your physician comes in, ask him about it. Persons who habitually sleep in such badly ventilated houses are seldom compelled to wait long for an opportunity to ask a physician such things, as it is to the occupants of these houses that he is most frequently summoned.

Almost all the fevers, cholera, and other plagues result from poisoned air, coming from bad drains, uncleaned streets, and badly kept back yards. House slops and remnants of the table, or decaying vegetables, should never be allowed to be thrown in the back yard. Good drains, clean cellars, and general cleanliness about the house, are the only safe guards to health. Pure air and good ventilation are just as necessary in the house as about the house. Whenever a number of persons live together, the atmosphere becomes poisoned, unless means are provided for its constant change and renovation. The death rate is much greater in a crowded tenement house than in the well ventilated and regulated homes of the wealthier classes.

Diphtheria, scarlet fever, and other dreaded contagious diseases are more prevalent and fatal in our large cities than in the country or smaller towns, owing chiefly undoubtedly, to lack of

proper drainage, imperfect ventilation and sanitary negligence in general, which seems to be so universally the case in towns and large cities. The best method of securing an outward flow of the foul air is by an open fire. If it is too warm for a fire to be desirable, a lamp burning on the hearth is good to create a draught. Stoves assist ventilation in the same way as grate-fires, though not to the same extent, by drawing off the foul air. A pan of water should be kept on the stove, to dampen the air by its evaporation. Heat without moisture is injurious, a certain amount of watery vapor being essential to the wholesomeness of the air. Furnace-heat is especially dry; radiators are still worse, and give no aid to ventilation.

Always remember that the lungs can not, in any confined space, fulfill their office of purifying the blood and removing its waste particles unless provision is made for the constant renovation of the air. This can hardly be too much emphasized. There are three important rules in regard to ventilation, viz: sufficient pure air must be introduced; the foul air must be removed; these ends must be achieved without injurious draughts. Equally important with pure air in living apartments is *sunshine*. It carries with it radiance and cheer and vigor and good health. It is a purifier, warding off mould, moisture, gloom, depression, and disease. It should be admitted to every apartment of the house, and made welcome at all times. It is a strong preventive of the disorders that visit shaded and musty places. It brings health and happiness that cannot be obtained from any other source. It is nature's own health-giving agent, and nothing can be substituted for it. It has no artificial counterpart. It does not only touch the physical body, but it reaches the mind and soul, and purifies the whole existence of man. It may fade a carpet or upholstery, but it will bring color to the cheek, light to the eye, and elasticity to the step. The closed and shaded window may throw a richness of color upon the room, but it will bring paleness and feebleness to the occupants. This health agent is free to all, easily obtained, and one of the most economic health preservers we have, and ready to impart its efficacy at the rise of the curtain.

It is a well known fact that many of our country school houses are closed at the end of the regular school term in Spring—shutters and doors, wherever sunshine and light are accessible, and all particles of good air, thereby excluded all Summer, until Fall when school again commences, which is indeed lamentable to relate, but much more horrible to realize that the health and life of both teacher and scholars become thus jeopardized ! It is timely that the public should better understand and more fully, appreciate such matters pertaining not only to the welfare of the immediate persons in the school room, as such negligence might ultimately affect a whole community. School houses should always be scrubbed, white-washed, properly ventilated and disinfected before occupancy by the scholars.

CHAPTER XVIII.—CONTINUED.

CONTAGION AND DISINFECTION.

Microbes in the Water and Atmosphere—Sterilization and Disinfection. What Are Antiseptics. Principal Agents Used for Disinfection. How Infectious and Contagious Diseases are Propagated and Remedied. The Prevention of Scarlet and Typhoid Fevers—Diphtheria, Cholera and other Infectious Diseases. How to Disinfect Rooms and Cellars.

It is now an accepted fact that the atmosphere is everywhere more or less laden with the minute organisms known as *bacteria* or *microbes*. These are the lowest forms of animal life. They are complex though microscopic and capable of very rapid multiplication.

Sterilization of a substance, or vessel, consists in the killing of all living organisms contained in it. This is done by means of boiling, baking, or steaming. The application of sterilization to the destruction of those bacteria or microbes which cause specific infectious or contagious diseases is called *disinfection*, and the agents used for the purpose are called *disinfectants* or *germicides*. In popular language the word "disinfection" is also applied to processes intended to destroy infection if it be present. Thus we speak of the disinfection of a privy-vault, or sewage, etc., and there is no special objection to this use of the word, for in the majority of cases in which we use disinfectants we do not know positively that specific disease producing germs are present, but merely think it possible that they may be there.

Antiseptics are substances which prevent the growth and development of micro-organisms, and especially of those which cause fermentation or putrefaction or which produce suppuration. They may or may not be disinfectants or germicides. A universal germicide—that is, an agent which affects complete sterilization—is necessarily an antiseptic for the time being, but if meat broth be heated until it is sterilized and is

then left in an open vessel, it is not thereby made antiseptic. An antiseptic is something which *remains*, and prevents the developments not only of the bacteria present, but of those which may be added afterwards, although it does not necessarily kill them. A *deodorant* is an agent which destroys or mitigates foul and unpleasant odors, but many of these agents have little or no disinfectant powers. There is no definite relation between foul odors and specific disease-producing organisms; either may be present without the other, and it is improper to speak of the process of masking or destroying the odor produced by a uterine cancer in the last stages as being a process of disinfection.

The principal agents now used for disinfection are heat, carbolic acid, bi-chloride of mercury, chloride of lime, quicklime, alcohol, and sulphurous acid. These are the cheapest, the most generally applicable, and the least likely to damage clothing, furniture, etc. The strong mineral acids, chloride of zinc, chlorine, hypochlorite of soda, and certain coal tar products are also good disinfectants, but are only used in special cases. What may be called the natural process of disinfection is accomplished in the course of time by light, fresh air, and the action of the common bacteria, but for prompt and certain disinfection we must resort to other agents.

Later on we will speak of those special disinfectant agents, as heat etc., and the simplest method of applying them in many cases.

All infectious diseases are supposed to be propagated by the agency of such living particles, given off from the body of the sick and conveying the specific poison. They may lie dormant for a time, but under suitable conditions develop and multiply, reproducing the original disease. In some cases the conditions of development are found within the body, and the disease can be directly transmitted from one person to another, while in others the germ only originates in the body, and requires to be developed outside before it becomes infectious. Of the latter class are typhoid, yellow fever, cholera, dysentery, and the plague, while all the other diseases commonly recognized as infectious are capable of direct transmission.

After exposure to contagion, some time is required for the development of the infectious germs before they actively manifest themselves. The interval, during which the poison remains latent, is known as the period of *incubation*. It varies in different diseases and even in different cases of the same disease, though each has its own characteristic type and mode of development. Small-pox is contagious even during the period of incubation. In measles and whooping-cough, the risk of infection is greatest early in the disease, before the appearance of the specific symptoms, rash and whoop. Scarlet fever is not infectious before the throat symptoms are present, and is most dangerously so during the third and fourth weeks, when the skin is peeling. The poison of typhus appears to exert its influence only within a limited range; contact with the patient must be moderately close for infection to take place. But the germs of small-pox, scarlatina, or diphtheria may be carried about indefinitely, or lie hidden in a room or in clothes for months, and then under suitable conditions manifest the greatest virulence.

Diseases which attack many people at the same time are termed epidemic; those confined to particular localities are endemic. Sporadic cases are such as occur singly, and independently of any recognized infectious influence.

Abundant oxygen is the best disinfectant; it decomposes the septic germs, as it does all other animal organisms. Boiling for half an hour will destroy the activity of all known disease germs, though in some cases their spores (reproductive cells) have a greater resisting power.

The most important of the special disinfecting agents is heat, and the simplest method of applying it in many cases is to burn the infected article. The cremation of garbage, of dead animals, or of human bodies, is a disinfecting process, though not usually performed for that purpose. Dry heat—that is a sort of baking in a closed chamber or oven—has been used to a considerable extent in many places for the disinfection of clothing, bedding, and small movable articles, but it is now being abandoned. It penetrates very slowly into non-conducting articles, such as bedding, mattresses, and pillows; it is very difficult to regulate so

as to secure a proper temperature in all parts of the oven ; it fixes stains of blood, excreta, etc., in clothing and bedding so that they can not be washed out, and it is very likely to injure the texture of woolen stuffs, scorching woolen at about 250° F. Exposure to hot air at 220° F. for one hour will kill micrococci and bacilli organisms, but not spores, (reproductive cells) which, however, may be killed by five hours' exposure to this temperature. One hour's exposure to a dry heat of 245° F. will kill spores. Dry heat is, however, less effective than moist, therefore steaming is much surer than baking. The simplest form of application of heat, combined with moisture, is by boiling in water, and this is the best method of disinfecting all articles of clothing, bedding, towels, etc., which can be washed without injury. The experience of large laundries connected with hospitals for infectious diseases, such as that in Glasgow, shows that all germs of infectious diseases are thus destroyed, and that clothing of small-pox, typhus, and other patients may be mingled and go through the boiling-vats without risk to the subsequent wearers. It should be borne in mind that infected clothing and bedding is chiefly dangerous when it is dry. When it is soaked with water it does not give off germs to the air. It would often be best, in collecting clothing and bedding supposed to be infected, to place the articles at once in a cask or tub or other vessel containing cold water, partly to soak out any stains and partly to prevent the giving off of any dangerous dust. Boiling is also an effectual means of destroying choleraic, typhoid, or dysenteric germs in water which must be used for drinking.

The best way of disinfecting the air of the sick-room, is by ventilating it, that is, by exchanging it for pure air. Air can not be renewed by disinfecting it, any more than it can be disinfecting by deodorizing. Neither process renders it fit to breathe again. In all cases of infectious disease free ventilation is of the first importance. In those diseases in which (as in scarlet fever and small-pox) the infectious particles are largely thrown off by the skin, a good deal can be done toward keeping the air pure by inunction of the skin with carbolized ointment, and by frequent bathing and changing of the clothes. Carbolic crystals exposed

in an open dish, or a carbolic solution sprinkled about the room, and on the outer covers of the bed, will quickly correct an offensive odor, but neither of these is to be regarded as a disinfectant.

Solutions of sulphate of iron (copperas), nitrate of lead, and permanganate of potash, and the various chlorides of lime, soda, and zinc, similarly used, do act as true disinfectants, the former gradually giving off oxygen and the latter absorbing carbonic acid gas and liberating chlorine; but as they affect only the air coming in contact with them their influence is not far-reaching. Any gaseous disinfectant, (as the fumes of nitrous acid, the vapors of iodine and bromine, etc.) to be effective, must be used in quantity incompatible with human presence. Chlorine and sulphurous-acid gas are the only two commonly employed. The most powerful and rapid of the liquid disinfectants in general use is the solution of bichloride of mercury (corrosive sublimate.) The solution ordinarily used is of the strength of 1 to 1,000, or about fifteen grains to the quart. This may be used for disinfecting vessels, sinks and drains; but not for clothing, as it makes an indelible stain.

Copperas or chloride of lime may be thrown dry into water closets and drains with good effect. They should afterwards be thoroughly flushed. A good disinfectant is made by dissolving half a drachm of nitrate of lead in a pint of boiling water, then dissolve two drachms of common salt in eight or ten quarts of water. When both are thoroughly dissolved pour the two mixtures together, and when the sediment has settled you have a pail of clear fluid, which is the saturated solution of the chloride of lead. A cloth saturated with the liquid and hung in a room will at once sweeten a fetid atmosphere; poured down a sink, water closet, or drain, or on any decaying or offensive object, it will produce the same result. The nitrate of lead is cheap, and a pound of it would make several barrels of the disinfectant.

Typhoid fever and cholera are only indirectly contagious, but the greatest care is essential in disinfecting those discharges from the body which contain the germs of contagion. Stools must be disinfected and disposed of thoroughly and promptly. For stools,

cover the bottom of the receiving vessel with copperas or chloride of lime before use. After use, add crude sulphuric acid, in quantity equal to one half the bulk of the discharge, cover closely, and carry at once from the room. These stools must not be emptied into the common closet. The best way to dispose of them is to mix with sawdust and burn them. All clothing and bedding soiled even in the slightest degree with the discharges must be disinfected with equal care and boiled. These measures rigidly taken, will prevent the spread of such diseases, unless there is some local cause for it.

When a patient has died from any infectious diseases the body should be washed with some disinfectant. The burial should be as soon as possible, and *strictly private*.

After the recovery or death of the patient from such a disease great care must be taken to thoroughly disinfect the room and everything in it.

To fumigate a room with sulphur, close the doors, windows and fire-place, and paste paper closely over all the cracks. Put the sulphur in iron pans, allowing two pounds for every thousand cubic feet of space. Set the pans in larger pans of water, and these on bricks so as not to burn the floor, pour a little alcohol over the sulphur and ignite, beginning with the pan farthest from the door by which you are to make your exit. Leave the room quickly, and paste up this door like the others. Keep it closed for twenty-four hours; then open all the windows, and let the room air for as much longer.

It has been said that the value of sulphur as a disinfectant has been exaggerated, but nothing better has been suggested to take its place.

OTHER WAYS TO DEODORIZE A ROOM.

Coffee pounded in a mortar, or otherwise, and roasted on an iron plate; sugar burned on hot coals; and vinegar boiled with myrrh and sprinkled on the floor and furniture of a sick-room, are all excellent deodorizers.

CHAPTER XVIII.—CONCLUDED.

HOME NURSING AND CARE OF THE SICK.

In nursing, like in a great many other matters it is very often the small things that insure success. It is remarkable to notice the difference in the conduct of people, particularly in emergencies when the right thing must be done at the right moment with no time to spare for reflection. Some people are peculiarly gifted with presence of mind, and are never at a loss as to the proper thing to do, while others are "completely at sea," and if they act at all it is to do the wrong thing.

Some appear dazed and allow the time for action to be lost, or by crying and wringing of hands add confusion to the excitement. In such cases as these "knowledge is power" indeed, and self-control very desirable. The nurse or attendant must learn to be cool and collected in time of trouble.

Good or proper nursing can scarcely be over-estimated. In many cases the recovery of the patient will depend more upon the care he receives than upon medical skill. Nursing, properly includes the administration of food or medicines, the execution of the physician's orders as well as the more personal care of the patient, such as attention to the condition of the sick-room—its warmth, cleanliness and ventilation. The careful observation and reporting of symptoms and the preventing of contagion as per disinfection of the passages and disinfectant ablutions in scarlatina and other like contagious affections. Nursing the sick is a work which falls largely, though not exclusively, to the share of women, and it has sometimes been claimed that all women make good nurses, simply by virtue of their womanhood, but this is far from being true. To fitly fill such a position as nursing requires certain physical and mental attributes, which all women—even

all good women—do not possess, as well as some special training. In this connection, it may be remarked that a woman if ever so well intended and qualified otherwise, if she lacks the executive ability, is unfitted for a first-class nurse.

Any expression of alarm or anxiety at a critical moment may result disastrously to the patient. If persons have not the power of self-control, I advise them to avoid placing themselves in positions where the same is necessary. As far as circumstances admit, it should be made a duty of one person to care for a particular case, as there is less liability of confusion in taking orders and giving medicine when one has entire charge. It is also better for the patient, for he soon learns to trust to the attendant's judgement and throws off all the care or personal responsibility. Confidence in the nurse is a great point in managing very sick patients, as it is very trying to the sick to feel that they must keep track of the food, medicines, etc.

Cheerfulness is another very desirable quality. It inspires hope and confidence, thus materially aiding recovery. Everything of a desponding nature should be kept out of the sick-room. It would be hard to estimate the influence of the sad-eyed friend who would come to the bedside of a very sick patient and ask him if he was "*prepared for the worst.*"

Everybody has a prejudice in favor of some particular physician or line of treatment, but it is not everybody who has sense enough to keep it to himself. For how often do we hear such expressions in the presence of the sick like the following: "If you would only have Dr. So and So, and take such and such a medicine you would not have to lie here and suffer, etc. etc.," as is a fair sample of the advice such *would-be friends* often give. At the same time they forget their own ignorance as to the nature of the case or means of cure being employed. How often we hear such remarks as "well he is simply committing suicide by sticking to that physician" or equally unkind remarks, regardless of truth or of the feelings of the friends of the family or its effects upon the patient. Everything of that nature should be kept from the patient, even if it becomes necessary to bar the doors against such intruders. By way of parenthesis, I would advise that you employ

only that physician in whom you can have explicit faith and confidence, and then stand by him. He is better able to judge of the course of disease and its probabilities than one who would be called in at a crisis. No one, I think, cares very much to do anything for anybody if the person thinks he or she is not doing it right or properly, or seems to think some one else could do more or perhaps do it better, and it is very annoying and distressing to any one to be obliged to work under such circumstances, and to no one can such treatment be more unpleasant than to an attending physician, especially in case of a protracted sickness.

Unnecessary noise and confusion should not be permitted in the sick-room, nothing is more irritating to a nervous patient than loud talking. When it is necessary to converse with the sick let the voice be sufficiently loud and clear to enable the hearer to understand without special effort. Talking other than necessary to ascertain the condition or wants of the patient should not be allowed. Remember that the nurse is not present to entertain but to aid the patient.

Whispering or low talking is very annoying, and it is apt to arouse a feeling of apprehension in the patient. He feels that something is being kept from him, and he will exercise every power, both mental and physical, to ascertain what it is.

In bedside watching, the nurse's work is often very responsible and trying, and it is here that the observing physician can readily determine whether the nurse is experienced or not from her general bearing. It is easy for the nurse to fall into the habit of fussing. Annoying the patient by over-attention is often as bad as the crime of omission.

The nurse must be systematic, gentle and cheerful, but *firm* and active. Observe with care the directions of the physician and be sure that they are understood. Do not fall into the habit of advising the physician as to the proper course to be pursued in managing the case. While it may amuse the physician, it is often very annoying, and it is liable to lead to confusion. At any rate, the nurse is not warranted in assuming responsibility in the treatment. The nurse must provide for her own health and comfort too by securing time for meals, sleep and exercise. If required to

sit up nights it is well to provide a midnight meal of nutritious food.

All arrangements for the night should be made beforehand. Extra bedclothes should be at hand. Fuel should be provided and so arranged as to be used without noise. Coal may be noiselessly placed on the fire if the precaution has been taken to have it put in paper bags ready for use ; the bag of coal being laid on the fire, and the coal spread about as it begins to burn. The temperature of the sick-room should be kept at about 65 degrees. In the early morning hours the vital forces of the patient are at an ebb and it is often necessary to add additional clothing or provide something stimulating at this time.

A nurse should never allow herself to become impatient. A sick person is often irritable and sometimes obstinate, but this must be overcome by kindness and firmness. Do not omit any little attention that will add to the comfort of the sick. If turning the pillows, or a sip of water, or brushing the teeth with a soft cloth moistened with lemon-water please the patient, do it by all means.

In so small a thing as giving the patient a drink of water it is often necessary to resort to stratagem to satisfy him. Unless the patient be allowed all he desires, regulate the quantity before handing it to him ; if he is allowed to drain the glass, he is usually satisfied and will ask no questions. Avoid jarring the bed and do not allow any one to sit on the bed.

Avoid haste ; do things quickly by knowing what to do and how to do them. All appearance of haste and uncertainty is annoying to the sick person, and above all things do not forget that kindness and tenderness are essential in successful nursing. This may seem like dwelling at length upon what might be termed minor points in nursing ; but in reality they stand first in importance because they are so often overlooked, and in many cases, especially in a tedious convalescence thoughtful care in regard to these small details will keep the patient contented and happy, and make his recovery more rapid, than will greater experience on the part of the nurse, without these desirable characteristics.

CHAPTER XIX.

DISEASES OF CHILDREN.

- PART I.—Intestinal Worms in Children. They May Cause Serious Sickness and Death. Six Kinds of Worms. The Symptoms They Produce. The Causes of Worms. How to Recognize the Presence of Worms. How to Successfully Treat Them. Improper Worm Mixtures Frequently Do Harm. TapeWorms—Their Prevention and Removal.
- PART II.—Nightmare, or Night Terrors of Children.
- PART III.—The Mother's Medicine Box of Home Remedies.
- PART IV.—Cholera Infantum. Complete Instructions as to Prevention, Causes and Treatment.
- PART V.—The Care of Infants During Hot Weather. Home Treatment of Colic. Constipation. Convulsions or "Fits" in Children—Causes and Treatment.
- PART VI.—Laryngitis or Croup of Children.
- PART VII.—Whooping Cough.
- PART VIII.—Chorea or "St. Vitus Dance."

PART I.

The belief among doctors that the presence of worms in the intestines constitutes a frequent disease in early life is now generally abandoned, since the pathology of infancy and childhood, and especially the means of recognizing diseases are better understood by the profession. Still intestinal worms must be considered an occasional cause of serious derangement, or even disease, and of death also. There are six kinds of worms whose dwelling is the human intestines: namely, the large round worm, found in the small intestines, especially of ill-fed children; which somewhat resembles in size the common earth-worm. It varies in length from six to nine inches and is of a light yellow color. The symptoms which it may possibly give rise to, are first, disturbed sleep, with grinding of the teeth, pallid countenance, dilated pupils, bluish rings beneath the eyelids, foul breath, swelled

belly, wasted extremities, depraved appetite, slimy stools, itching of the nose straining at stool and itching of the anus; second, the small thread worm found in the rectum which is the smallest of the intestinal worms, averaging usually about a quarter of an inch in length and is white in color. It gives rise to intolerable itching and irritation about the anus, straining at stool, picking of the nose, disturbed sleep, and sometimes convulsions. Third, the long thread worm usually found in the cæcum and large intestines, about 8 or 10 feet from the anus, measuring about 2 inches in length, and having a very slender body. It is often found in considerable numbers even in the intestines of healthy persons: during life they give rise to no symptoms. Fourth, the common tapeworm of this country called the *Tænia Solium*, which exists in the small intestines, varying in length from 5 to 35 feet. The symptoms of its presence are not very striking, its existence being generally unsuspected until single joints are passed in the stools, in many cases, however, there is a continual craving for food, debility, pain in stomach, wasting of flesh and itching about the nose and anus. Fifth, the broad tapeworm which is almost peculiar to the inhabitants of Switzerland, Russia and Poland. There is no certain or infallible sign or symptom of worms excepting actually seeing the worms. But microscopic investigations have revealed a definite sign namely the presence of ova or eggs in the passages from the bowels. By these means the nature of the disease as well as the species of worm may be ascertained. Sixth, the *Tænia Saginata*, another species of tapeworm. Tapeworms are very rare in early life. Most practitioners never meet a case of it in children; still, there are such cases on record. Worms are much more common among the children of the poor than those in the better walks of life; the same applies to locality. Among the causes of worms in the alimentary canal may be mentioned continued indigestion, inferior quality, and poorly prepared food. It is also a common, and probably correct belief that the use of certain kinds of food, favors the development of worms. Fruits in excess, and sweet substances, taken in too large a quantity or too frequently. Both the round and the thread worms occur oftenest in children, between

the ages of three and ten years. The freedom from worms is greatest in those children who are nourished entirely, or almost entirely at the breast. I would remark here, while these worms usually reside in the small intestines, the long or round worm occasionally enters the stomach from which it is vomited. Cases are on record, in which the worm entered the windpipe, producing suffocation and speedy death. It has been discovered in the vermiform appendix, in the pancreatic duct, the common bile duct, and even in the gall-bladder. Under such circumstances serious results are likely to follow. The symptoms and disorders produced by worms may all occur from other causes. Much injury has been done to children by the use of worm medicines, occasionally employed by physicians, but oftener by parents, before the physician is called. Medicines of this class are usually irritants, and, as in many of those diseases which simulate the verminous affection, but are distinct from it, there is already an irritated, if not an inflamed state of the intestinal mucous surface. Vermifuge administered under such circumstances, obviously do harm, and in all acute diseases in which they are not required, even if their action is harmless their employment is to be regretted since it consumes time which is often very precious.

It is thus that many lives are lost by the use of worm mixtures which are extensively advertised and which command a ready sale, since the belief in the existence of worms as a frequent cause of disease, pervades all classes of the community. A safe rule, followed by many physicians, and it would be much better if it were general, is not to give worm medicines unless the child has passed one or more worms, or their eggs, are found in stools and not then if all the symptoms seem to be referable to existing disease. In doubtful cases, in which the symptoms resemble those of worms, a purgative dose of calomel, or calomel and rhubarb may be employed. It will generally bring away one or more roundworms or a mass of thread worms, if either species of worms is present. This may be safely employed if there is no previous diarrhœa or debility. If after one or two doses, and a free purging no worms are passed, worm-remedies should not be given, for it is almost certain that no worms exist.

PART I.

TREATMENT.

A large number of medicines have or have had a reputation against worms. Santonin, the active principle of the European wormseed is one of the best, and is much employed in this country and in Europe. It is nearly tasteless ; it may be given in powder in two or three grain doses, three or four times a day in sugar, or spread on bread with the butter. It is kept in the shops, in one or two grain lozenges, sometimes mixed with calomel. If it fails to purge or physic the last dose should be followed with a dose of castor oil. It has the advantage of easy administration and is destructive to both the round and thread worm. The purgative is required to aid, not only the expulsion of the worm, but also of the eggs. There are many other worm medicines but these generally suffice and I deem it useless to enumerate the many worm-mixtures which have been extolled from time to time. To remove a tapeworm, let the child fast for about a day, give a purgative dose of calomel and male-fern, or what is perhaps better in children pumpkin-seed (the inner portion), in sufficient quantities for a day, and followed again by a brisk cathartic. Threadworms require different treatment. The anthelmintics described above have less effect on them than on the lumbrici. Still, they may be administered for the expulsion of the former, but rather as adjuvants to the main treatment. The main treatment should be local, consisting in the use of injections, since from the habitat of this worm enemata (injections), will ordinarily reach and destroy it. The substances which have been successfully employed as enemata are salt and water, lime water, a decoction of aloes, or a decoction of two cloves of garlic in milk and quassia. The injection of six ounces of lime water and two drachms of tincture of chloride of iron has also been highly extolled.

Threadworms in the rectum may also be destroyed by ointments containing mercury, as a drachm of mercurial ointment mixed with oil or melted butter, or five grains of calomel with yolk of an egg. Suppositories containing santonin are likewise very efficacious for this purpose.

NOTE.—Tapeworms are caused by eating either raw beef or pork, or meat and fish not thoroughly cooked, which frequently contain the so called cysticerci (the larval form of the tapeworm). In view of the danger of acquiring a tapeworm, it is certainly not judicious to use raw beef or pork or partly cooked meats and fish as articles of diet. The meat contained in bologna sausages is liable to contain living parasites of this form and kind, and there is danger from this source from eating the same.

PART II.

NIGHTMARE OR NIGHT TERRORS OF CHILDREN.

A young child may go to bed quite well, fall asleep, but after sleeping two or three hours, or perhaps in the middle of the night, it suddenly awakens in great alarm and utters loud cries; its attention seems absorbed by some frightful dream—probably about a bear or a dog, or some other animal which is thought to be in the bed and for a few moments it fails to recognize its nurse or parents who have been attracted by the noise. After having been soothed and taken into the arms of its mother or nurse it weeps and sobs, then gradually grows quiet and again falls asleep; and probably the attack does not return until one or more nights afterwards. Seizures of this kind are generally due to disorders of the stomach or bowels, producing sympathetic irritation in the brain or nervous centre. Worms in the intestinal canal as well as an over-loaded stomach or indigested food may produce nightmare. These cases are readily curable, the grand point is to regulate the action of the stomach and bowels and relieve the constipation which generally exists, especially if the diet be at the same time, rendered simple, nourishing, and digestible. The child's bed ought also to be placed by the side of its parent's bed. The child should not be left alone, and a candle should be kept burning in its room all night and great kindness should be shown when it awakens with this mental torture. To relieve the habitual constipation and improve the digestion nothing is better than the following prescription :

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Comp. Tinct. Gentian,	one ounce.
Fld. Ext. Cascara Segrada,	one ounce.
Water,	two ounces.

Mix. Give a teaspoonful, more or less according to the age of the child, before each meal. Regulate the dose according to the condition of the bowels.

Nightmare in grown persons does not differ materially from the nightmare of children just described, and is likewise attributable to the same sources. It also readily admits of a cure by following the directions of treatment suggested in the chapters on Dyspepsia and Habitual Constipation.

CHOLERA MORBUS.

Nearly every one knows what cholera morbus is, and it is not deemed necessary to go into a lengthy description of it. It is characterized by intense vomiting with pain in the stomach and watery diarrhœa, often accompanied with cramps in the legs and arms. It occurs most frequently in the summer or autumn and is usually caused by improper food, especially unripe fruit. An attack of cholera morbus often comes on suddenly, sometimes there is a sense of weight or uneasiness for a few hours in the stomach, extending more or less over the abdomen, with perhaps colicky pains before the seizure. The attack takes place much oftener in the night than in the day-time and commences by vomiting and purging, the same occurring in quick succession or simultaneously, and these latter are the chief features of the affection. The evacuations from the stomach and bowels are generally abundant, and accompanied with great pain, very like that of cramp or spasm of the stomach. Death from this affection in the grown person is extremely rare, but on the contrary recovery, is usually speedy. It occurs much oftener in men than in women.

The treatment of cholera morbus consists in relieving the excruciating pain by opiates (morphine, laudanum, etc.,) either administered by mouth or hypodermatically (under the skin), as suggested in cramp of the stomach. The opiates will, in most

cases, check the diarrhœa, as well as the vomiting and pain. If the morphine, etc., are vomited, a second dose should immediately be given and continued until the dose is retained. No liquids whatever if possible, should be given. The intense thirst which usually exists may be quenched by a tablespoonful of ice water at short intervals, or what is better, small pieces of ice may be taken frequently and allowed to melt in the mouth. If there be great exhaustion, a little whiskey and water may be taken, if retained, at short intervals. Care as regards diet is alone required in most cases, after an attack of cholera morbus.

PART III.

THE MOTHER'S MEDICINE BOX OF HOME REMEDIES.

Every mother should keep on hand simple remedies, for it may often save the life of a member of the family. Keep the bottles well corked and labeled, and all medicines in safe quarters. It is better to have small bottles and fill them frequently, if necessary, as many medicines lose their strength by keeping.

Castor Oil.—This is the safest laxative for children, and half a teaspoonful may be safely given to a child under a year old, and two to a child of six. Give in case of vomiting and diarrhœa from undigested food.

Sweet Spirits of Nitre, will reduce fever and produce perspiration. Put two teaspoonfuls in a half glass of cold water, and let the child take a teaspoonful at intervals of half an hour. This is also excellent in colds and may be combined with paregoric for the latter purpose.

Syrup of Ipecac, is a good emetic. Give a teaspoonful to a child over one year of age, and follow this by giving the child tepid water until copious and free vomiting is produced. This is one of the best remedies for croup.

Iodine.—In case of slight soreness of the chest, or enlarged gland in the neck or groin, apply with a camel's hair brush. If the skin is tender, one application will be sufficient. If it smarts too severely, it may be washed off with ammonia. Ordinary starch,

wet and applied in a paste over the part on which the iodine is painted will, if allowed to dry—subdue the smarting.

Camphorated Oil.—This is the best application for cold in the chest. Warm the oil and rub the back and chest well with it.

Liniment.—Every mother should keep on hand a bottle of good arnica or some other well recommended liniment found in other parts of this book.

Aromatic Spirits of Ammonia.—Ten or twelve drops may be given in water to a baby that suffers continually with colic. A half teaspoonful will relieve cramps in other children. Keep in a bottle with a glass stopper.

Lime Water.—A quart bottle of this may always be kept on hand as it does not easily spoil.

Powdered Alum.—Half a teaspoonful of powdered alum mixed with a little sugar is an excellent emetic, if the first dose of ipecac is not effectual. It is good for canker sores of the mouth, and an excellent remedy for nose bleeding if sniffed up the nostrils.

Glycerine.—Half tablespoonful doses relieve the irritation of the throat caused by coughing. Mixed with powdered tannic acid and diluted with water, it is a good gargle for a sore throat. Mixed with four or five times as much rose water it makes a healing wash for chapped hands, rough face, or chafed skin.

Bicarbonate of Soda, or the ordinary baking powder is also a good household remedy and should always be kept on hand. A teaspoonful in half a cup of water will readily relieve water brash or heartburn. Dusted on burns or in solution applied on rags to scalds or burns as directed in another part of this book, forms one of the best home remedies in the treatment of these accidents, that can be advised. It is a ready antidote for carbolic acid and the other acid poisons. Bicarbonate of soda is largely used by physicians to render the urine alkaline in inflammatory rheumatism.

Paregoric.—A good household remedy and should be kept in every family; given in doses of five to twenty drops or more according to the age of the child, it is a capital remedy for pain of a colicky nature and timely given will often check diarrhoea, thus frequently preventing cholera infantum, or serious consequences.

Carron Oil, consists of equal parts of lime water and linseed

oil; is the remedy par excellence for burns or scalds when applied according to directions given in another part of this volume.

Prepared Chalk, which costs about twenty cents a pound should always be kept on hand. Aside from its being a rather valuable antidote in carbolic, and the other acid poisons, it is also excellent in water brash, heartburn or acidity of the stomach, and the acid or green movements of babies and children and in adults. It can be administered in unlimited quantity as it is perfectly harmless.

Bromide of Potassium, should be included in the list of domestic remedies. It is of much benefit in convulsions of children; in sick headache; insomnia, etc. It can be administered in large doses for these purposes. It being quite harmless. It is cheap and does not spoil by being kept.

Lime Water.—A large bottle of this easily prepared compound should always be kept prepared for use. It is not only desirable as an antidote to many persons, as carbolic and oxalic acids, but it is a valuable antacid, when such a thing is required.

To make it, take a piece of unslacked lime (never mind the *size*, because the water will only take up a certain quantity); put it into a perfectly clean bottle and fill the bottle up with *cold* water; keep the bottle corked, and in a cool, dark place, such as a cellar. In a few minutes it is ready for use, and the clear lime water can be poured off whenever it is needed. When the water is exhausted, fill the bottle again. This may be done three or four times, after which some new lime must be used, as in the beginning.

Among the other domestic remedies, always safe in the hands of the layity which should be kept among the household remedies, may be mentioned.

Ground Mustard,	Chlorate of Potash,
Sulphuric Ether,	Brown's Mixture for Cough,
White Vitriol,	Vaseline and Cosmoline,
Spirits of Hartshorn,	Sweet Spirits of Nitre,
Liver Pills,	Essence of Ginger,
Calcined Magnesia,	Tincture of Arnica,
Essence of Peppermint,	Carbolic Acid, (labelled poison).
Cox's Hive Syrup,	Chloride of Lime, for disinfecting.
Compound Cathartic Pills,	Tincture of Opium, (in case of pain—carefully labelled.)

PART IV.

CHOLERA INFANTUM.

Complete Instruction as to Prevention, Causes and Treatment.

Cholera infantum is a disease of the summer months and occurs in young children. It is usually due to improper food, teething and unhygienic surroundings, such as want of ventilation and sunshine, improper food, uncleanness, etc. Cases occur from the month of May to October. It is most frequent in large cities and towns and is more common in tenement houses, and parts of the city or town occupied by the poor, than in cleanly and less crowded streets and apartments. Summer heat and the anti-hygienic conditions to which it gives rise, sometimes appear to be sufficient in themselves to develop cholera infantum. Often in the hot months acid and indigestible fruits as currants, unripe apples, etc., heedlessly given to an infant are apt to occasion the attack. It usually occurs in children under two years of age. It is so frequent during teething that some writers deem it the cause. Some physicians designate (as cholera infantum) all infantile diarrhœas, if they are in the least protracted or obstinate in treatment. This is wrong; it should, in my opinion, only be employed to designate that form of diarrhœa in children, in which there are frequent, watery, perhaps mucous stools accompanied by vomiting and rapid and great wasting away of the child. Cholera infantum is a very serious disease; the death rate in cities, towns, and under favorable conditions, elsewhere, is very large, and it is timely that parents should understand more about the cause, prevention, and treatment of it.

Cholera infantum sometimes begins abruptly, like cholera morbus, in the adult; but in my experience the affection is often preceded by a premonitory stage, that of simple diarrhœa, the passages of which are thinner than natural, and somewhat more frequent, but not such as to excite alarm. Suddenly the evacuations become more frequent and watery and the parents become surprised and frightened by the rapid sinking and real danger the infant or child. Occasionally this antecedent diarrhœa has continued several weeks, attended with emaciation and associated, perhaps,

with inflammation of the bowels. In other instances the previous health has been good and cholera infantum commences suddenly, that is, the child is seized with intense vomiting and diarrhœa all at a sudden. The disease is characterized by the discharge from the bowels of thin stools, designated by some watery, by others serous (whey like). The first evacuations, unless there has been previous diarrhœa, contain considerable fœcal matter. They are so thin as to soak into the diaper almost like urine, and in some cases they scarcely produce more of a stain than does this secretion. The odor is peculiar, not fœcal, but musty and offensive ; occasionally the stools are almost odorless. Commencing simultaneously with the watery evacuations, or soon after, is another symptom, namely irritability of the stomach, which increases greatly the prostration and danger. Whatever is swallowed by the child is rejected immediately or in a few minutes, or there may be retching without vomiting. The appetite is lost, and the thirst is intense. Cold water, especially, is taken with avidity, and if the infant nurses, it eagerly seizes the breast, evidently to relieve the thirst. The tongue is moist at first, and clean or covered with a light fur. The pulse is accelerated, while the respirations are either natural or somewhat increased in frequency ; the surface is warm, but its temperature is speedily reduced. There is no abdominal tenderness, and no evidence of pain. The infant is often restless at first, but its restlessness is due to thirst, or that unpleasant sensation which the sick experience when the vital powers are rapidly reduced. The urine is scanty in proportion to the gravity of the attack. The loss of strength, and the emaciation are more rapid than in any other malady. The parents scarcely recognize in the changed and melancholy aspect of the infant any resemblance to the features which it exhibited a day or two before. The eyes are sunken, the eyelids and lips are permanently open from the loss of muscular strength, and the loss of the fluids and of the flesh is such that the bony angles become more prominent, and the skin in places lies in folds. As the disease approaches a fatal termination, which often occurs in two or three days, the child remains quiet, not disturbed even by the flies which alight upon its face. The limbs and cheeks become cool ; the eyes bleared and pupils con-

tracted. A state of stupor results from which there is no relief and which after a few hours ends in death. Often, even in cases which are ultimately fatal, there is not such a speedy termination of the disease. The affection may end in an inflammation of both the small and large intestines and become very protracted and obstinate. In the most favorable cases of cholera infantum the patient recovers before this bad condition supervenes.

TREATMENT.

The great frequency and watery character of the stools in cholera infantum and the rapid sinking of the infant, makes the call for prompt measures for the arrest of the disease. Where there is suspicion of any irritating substance in the stomach or intestines, which might act as an exciting cause of the vomiting or diarrhœa, or at least, aggravate them, it is proper to commence the treatment by the use of a mild emetic or cathartic. In the majority of cases the spontaneous efforts of the stomach suffice to empty the same completely, and an agent to provoke vomiting is found unnecessary. Whenever it is deemed necessary to give an emetic, two to four grains of powdered ipecacuanha, in a single dose, (according to the age of the child) is perfectly safe and efficient to throw off the load which the child has been imprudently permitted to take into the stomach. It is more frequently the case that the efforts of the *bowels* are not successful in carrying off *their* contents, and the stomach is perhaps at the same time so irritable, as not easily to retain medicine and it is difficult to rid the bowel canal of its burden. Under these circumstances calomel is *the* great remedy; it has no taste, it can be retained when scarcely any other medicine will remain, the bulk is likewise so small and if vomiting occurs after it has been administered the stomach becomes less irritable, so that a way is open for other medicine or for nourishment; besides calomel is seldom all thrown up. The dose of calomel, for these purposes is from one to two grains, according to age of the child, every two or three hours, till the bowels are disburdened of their load. The same are now kept in our drug stores in tubular form in all sizes and are readily soluble in water or milk. But it is a

medicine which is slow in its operation, and it may be followed very advantageously with castor oil. Spiced syrup of rhubarb in teaspoonful doses, in combination with calcined magnesia, especially if there is a state of acidity, will also unload the intestines. All of these purgatives should however not be given to the extent of more than one or two doses and it may be aided by an injection into the rectum, or perhaps the injection alone will suffice. If there is no indigestible substance in the intestines, purgatives are not to be used, as they might then do more harm than good. Treatment, calculated to lessen the frequency of the discharges and to improve their character, should be commenced at the earliest moment. For this purpose nothing has succeeded better in my hands than the following agents :

R

Dover's Powder,	15 grains.
Mercury with Chalk,	10 grains.

Mix. Divide into 15 powders, (for a child a year or more old). Dose. One powder every three hours in a little milk. At the same time employ astringents and alkalies to restrain the frequent watery evacuations, like in the following prescription :

R

Chalk Mixture,	2 ounces.
Tincture Krameria,	1 ounce.
Paregoric,	$\frac{1}{2}$ ounce.

Mix and give a teaspoonful every hour or according to the frequency of the stools. Every hour that cholera infantum continues unchecked, reduces the strength of the infant and diminishes his chance of recovery. But I would caution against the too sudden checking of the disease by the use of opiates as children bear this medicine badly, and there is great danger in this disease of the sudden supervention of stupor, amounting even to coma and ending fatally. Our main reliance must be on opium, in some form, especially for the vomiting; one drop of laudanum after the stomach and bowels are emptied of the indigestible substances. Laudanum may be given to a child five or six months old repeated in several hours in one drop doses, and often act very happily and

this amount of laudanum may be given with the other remedies suggested. It is too often the case that diarrhœa in children is allowed to run on without any especial notice or treatment until very frequently the affection becomes so aggravated as to terminate in inflammation of the bowels. It is then that vomiting, and not infrequently, convulsions supervene. This is, indeed, deplorable, because if more care were exercised these slight affections would not terminate so fatally. Never neglect the slightest diarrhœa especially during the hot summer months. Observe proper cleanliness as regards nursing bottles, etc.; care in the preparation of the milk, as elsewhere suggested; attention to proper clothing and diet. If attention is given to these details You will find that cholera infantum will not be so common an affection and seldom fatal, consequently much less serious. The foregoing treatment and suggestions are invaluable in all forms of diarrhœa, and if given in time will surely save many a dear child's life.

PART V.

THE CARE OF INFANTS DURING HOT WEATHER.

Home Treatment of the Diseases of Infants and Children. Treatment of Colic—Constipation—Convulsions or Fits in Children—Cause and Treatment.

Bathe infants daily in tepid water and even twice a day in hot weather. If delicate they should be sponged instead of immersing them in water, but cleanliness is absolutely necessary for the health of infants. As to their clothing, put no bands in their clothes, but make all garments to hang loosely from the shoulders, and have all their clothing *scrupulously clean*, even the diaper should not be reused without rinsing. The child should in all cases sleep by itself on a cot or in a crib and retire at a regular hour. A child *always* early taught to go to sleep without rocking or nursing is the healthier and happier for it. Begin *at birth* and this will be easily accomplished.

Never give cordials, soothing syrup, sleeping drops, etc., without the advice of a physician. A child that frets and does not

sleep is either hungry or ill. If *ill, it needs a physician*. Never give candy or cake to quiet a small child, they are sure to produce disorders of the stomach, diarrhœa or some other trouble.

Children should have plenty of fresh air summer as well as winter. Avoid the severe hot sun and the heated kitchen for infants in summer. Heat is the great destroyer of infants. In excessive hot weather feed them with chips of ice occasionally, if you have it.

Keep your house clean and cool and well aired night and day. Your cellars cleared of all rubbish and white-washed every spring, your drains cleaned with strong solution of copperas or chloride of lime, poured down them once a week. Keep your gutters and yards clean and insist upon your neighbors doing the same.

As to the evacuations of the child. The healthy motion varies from light orange yellow to greenish yellow, in number, two to four times daily. Smell should never be offensive. Slimy mucous-like jelly passages indicate worms. Pale green, offensive, acrid motions indicate disordered stomach. Dark green indicate acid secretions and a more serious trouble.

The following prescription is of tested value for disordered stomach or bowel troubles of children.

R

Powdered Rhubarb,	one half drachm.
Bicarbonate of Soda,	one drachm.
Essence of Peppermint,	five drops.
Water,	one ounce.

Dose. A tablespoonful before meals. May be sweetened when used.

Fetid dark brown stools are present in chronic diarrhœa. Putty-like pasty passages are due to acidity, curdling the milk, or to a torpid liver. For this latter we have a panacea in the following: Mercury with chalk, combined with compound ipecac (or Dover's) powder, one grain of each three or four times a day; the same is also good for all forms of summer diarrhœa in children. Can readily be had at all drug stores.

HOME TREATMENT FOR THE DISEASES OF INFANTS
AND CHILDREN.

Out of the 984,000 persons that died during the year of 1890, 227,264 did not reach one year of age, and 400,647 died under five years of age. What a fearful responsibility therefore rests upon the parents who permit these hundreds of thousands of children to die annually! This terrible mortality among children is undoubtedly largely the result of ignorance as regarding to the proper care and treatment of sick children. For very small children it is always best to use homœopathic remedies.

Colic.—Babies often suffer severely with colic. It is not considered dangerous, but causes considerable suffering. Severe colic is usually the result of derangement of the liver in the mother, or improper nourishment and it occurs more frequently when the child is from two to five months old. Let the mother eat chiefly barley, wheat and bread, rolled wheat, graham bread, fresh milk, eggs, and fruit. The latter may be freely eaten, avoiding that which is very sour.

A rubber bag or bottle filled with hot water put into a crib will keep a child once quieted, asleep for hours. If a child is suffering from colic, it should be thoroughly warmed and kept warm. Avoid giving of any kind, such as cordials, Mrs. Winslow's Soothing Syrup, "Mother's Friend," and various other patent medicines. They injure the stomach and health of the child, instead of benefitting it.

Remedies for Colic.—A few tablespoonfuls of hot water will often allay a severe attack of the colic. Catnip tea is also a good remedy. A drop of essence of peppermint in 6 or 7 teaspoonfuls of hot water will give relief. If the stools are green and the child is resting, give chamomilla. If the child is suffering from constipation and undigested curds of milk appear in its fæces, and the child starts suddenly in its sleep, give nux vomica. An injection of a few spoonfuls of hot water into the rectum with a little asafoetida, is an effective remedy, and will be good for an adult.

Constipation.—This is a frequent ailment of infants. The

first thing necessary is for the mother to regulate her diet. If the child is nursed regularly and held out at the same time of each day, it will seldom be troubled with this complaint. Give plenty of *water*. Regularity of habit is the best remedy. If this method fails, use a soap suppository. Make it by paring a piece of white castile soap round. It should be made about the size of a lead pencil, pointed at the end. Avoid giving baby drugs. Let the physician administer them if necessary. The writer embraces this opportunity to say that he has a special medicine for habitual constipation in children in the form of pellets which is an infallible remedy and posses great merits, in as much, as they are of very small size, almost as soluble as snow in a little water, without the slightest taste, or if any, the taste of candy ; they are taken with great relish by all children and are perfectly harmless. One pellet is to be given in the evening when deemed necessary by the mother. A box containing four dozens will be mailed to any address on receipt of twenty-five cents in postage stamps.

CONVULSIONS IN CHILDREN.

Convulsions or "fits", are of very frequent occurrence, and while they are merely a symptom or indication of some affection or disturbance of some kind or other in the system, and not strictly a disease by themselves. It is, however, of the highest importance that parents should understand more concerning the same and know better how to prevent and treat them when they occur. Convulsions occurring in a child, when not preceded by protracted heat and some disorder in general, are, for the most part, not serious or dangerous, and usually last only a few minutes, but a succession of them is alarming and when they supervene during the course of some severe disease like scarlet fever, whooping cough, pneumonia, cholera infantum, etc., they generally foreshow great danger and the little patient frequently has to succumb to these combinations.

Cause.—Convulsions in children may result from indigestion, worms, difficult teething, fright or anger, predisposition, (like in families in which there is a tendency to convulsions) premature

weaning, too coarse food, and a weakened condition of the general health, together with anti-hygienic influences.

TREATMENT.

Remove the clothing with as little disturbance as possible, and put the child in a warm bath at once; always keep the head cool. An enema, (injection) per rectum of warm water or soapsuds, together with a dose of castor oil are always safe when a child is seized with convulsions. In fact purgatives are the sheet-anchor and THE remedy in these complaints, and it is here, where calomel in one or two grain doses, according to the age of the child, every two or three hours, until free purging takes place, works so very happily and saves life. Bromide of potassium in several grain doses, every hour, or tincture of hyoscyamus in 5 to 10 drop doses according to the age of the child, are excellent anti-spasmodic remedies, and are great beneficial agents. It need hardly be remarked, that where swollen and painful gums, during teething, cause convulsion, they should be slightly lanced. When great heat exists sweet spirits of nitre, or a drop of aconite in water every hour or so is likewise indicated.

PART VI.

LARYNGITIS OR CROUP OF CHILDREN.

This is a common or frequent disease and is of three varieties, namely: 1. Spasmodic laryngitis or "false" croup; 2. Pseudo-membranous laryngitis or "true" croup; and 3. Diphtheritic laryngitis or "diphtheritic" croup. The first form occurs at all ages but it is so common in infancy and childhood that it is only described in treatises on the disease of this age. Like the other inflammatory affections of the air passages, it is most common in the cold months or when the weather is very changeable. Its usual cause is therefore, exposure to cold. The protracted and violent crying of the young infant is occasionally a cause. In most cases due to the impression of cold, a running of the nose precedes and accompanies the attack, also chilliness, with some-

times sneezing. The voice is sometimes completely lost; a dry, hoarse or husky cough is also present. Attacks usually come on toward, or during the night, and the parents become awakened and terrified. The symptoms vary greatly in intensity and in different patients. I think this form of croup never destroys life, unless complicated with some severe disease, and unless utterly neglected. All that is necessary when these attacks come on, is to administer a teaspoonful of the syrup of ipecac every twenty minutes, or in its absence Coxe's hive syrup in somewhat smaller doses in the same way, and free vomiting will readily cure the trouble. But the second form of croup, is one of the most serious and fatal diseases of childhood. Pseudo-membranous or "true" croup, though not true diphtheritic croup, is like it, due to an exudation of fibrinous or false membrane upon the mucous membrane of the larynx. The exudation, like the false membrane in diphtheria is also caused by a bacillus, but it is not the same which generates the true diphtheria, nor is it so contagious. It occurs frequently between the ages of two and seven years, is very rare in adult life, and also under the age of six months.

Causes.—There is greater liability to this disease in some children than in others and there seems to be an occasional hereditary predisposition in some children, for there are not a few parents who lose many children from this source, as they arrive at about the ages most favorable to its development. Exposure to cold, and change of temperature are causative in this, as in the spasmodic form. Those children, especially, are liable to croup who live in heated apartments, and are taken into the open air without proper covering, and those who a part of the time are warmly and a part of the time thinly clad, especially as regards the covering of the neck. It is apt to occur in children who are obliged to sleep in close rooms overheated during the day and cool at night.

It is a question whether it ever occurs as an epidemic. Croup prevailing in that form (epidemically) is undoubtedly true diphtheria, but as the exudations and symptoms in the two affections simulate each other so closely, it is very easy to confound the two diseases. Nor does it matter much, as the treatment does not differ very materially.

TREATMENT.

No delay should be made in the treatment of this form of the disease, as all that is to be done must be done quickly. Emetics may be given the first day, as advised in the spasmodic form of the disease; but if the same do not at once relieve the trouble a skilled physician should be hastily summoned, who will not use any depressing agents to procure vomiting after the first day or two as they can only do harm by lowering and depressing the vital powers.

The following is a valuable formula for a child from three to five years of age :

R

Chlorate of Potash,	one drachm.
Muriate of Ammonia,	two scruples.
Simple Syrup,	one ounce.
Water,	two ounces.

Mix. One teaspoonful every half hour, or in cases not severe, every two hours, night and day, until the cough becomes loose, or until it is evident that it can be of no service. A very important part of the treatment in pseudo-membraneous laryngitis is the inhalation of steam. Some of our most experienced physicians believe this to be more useful than all other measures combined. In one of the most severe cases which I have met, which terminated favorably, the room was so filled with steam that water hung in drops from the ceiling. The atmosphere which the child breathes should be constantly loaded, with moisture without, however, that degree of heat which would add materially to the discomfort of the patient or attendants. The moist air coming in contact with the inflamed surface promotes expectoration and renders the cough looser. Steam may be readily produced by placing heated irons or bricks in a shallow pan or pail containing a little water, or by pouring water upon a heated surface. In order to avoid heating the entire room and to concentrate the vapor, the nurse may sit with the child under a frame covered with a blanket, and the steam be produced underneath.

Tracheotomy is the next recourse, and the writer is much in favor of the surgical expedient, when the medical measures seem

to fail, and would suggest that the operation be not too long delayed until the case becomes, altogether too hopeless. It need hardly be remarked that in true diphtheritic cases where the larynx once becomes fully involved and "true croup" takes place that no operation should be performed in such cases. Moist air, as per the steam atomizer is the chief, as well as the very best resort, as a local remedy.

The third or last form of this disease—true diphtheritic croup is so extremely grave and recovery is so exceedingly rare that very little hope can be extended. The application of nitrate of silver solution and tincture chloride of iron with glycerine, steam with carbolic sprays; and the usual remedies—iron, quinine, whiskey, etc., generally prescribed in diphtheria are our only sources of avail.

PART VII.

WHOOPING COUGH.

Pertussus, (from the Latin *per*, intensive, and *tussus*, cough) or whooping cough, has derived its name from the fact that the cough is distinguished by a prolonged, forcible characteristic crowing or whooping noise, though many cases of whooping cough, exist without this characteristic sound, which makes the diagnosis extremely difficult, especially at the beginning. It is especially a disease in early life. No period of life is, however, exempt from the susceptibility to the contagion and the infrequency of the affection after childhood is accounted for by the fact that the great majority of persons experience it before they are grown up. It is a highly infectious or contagious disease, often epidemic, rarely occurring more than once in the same individual, and when *severe* and *complicated* with *convulsions*, *pneumonia* (breast fever) *capillary bronchitis* and a host of other affections, which are liable or apt to supervene, very dangerous. When simple and uncomplicated the prognosis is ordinarily favorable, nearly all recovering under such circumstances.

In rare instances death may occur in or immediately after a paroxysm of coughing, in consequence of rupture of small blood-

vessels in the brain or by the occurrence of apoplexy. The disease may likewise prove fatal through inanition or starvation, the paroxysms of coughing and vomiting being so frequent as to impair the nutrition of the little sufferer and carry it off in that way. Whooping cough prevailing in the summer season and associated with cholera infantum or dysentery, becomes one of the gravest affections and is frequently fatal, but death occurring in such cases is due to the complications rather than the pertussus. The disease usually commences with the symptoms of an ordinary cold or common catarrh; slight chills followed by heat, swelling of the countenance (face), running of the nose, restlessness with irritability and troublesome cough. In the course of a few days the slight disturbance of the health ceases, but the cough continues, changes its character, and becomes convulsive and prolonged, and is attended with expectoration of ropy mucus in great quantity. As the severity of the cough increases, the paroxysms assume the suffocative character, which terrify the patients; the vessels of the head, neck and face become swollen during each attack; the eyes appear as if starting from their sockets and the nose may bleed, the danger and gravity of the disease depending on the number, frequency and intensity of the paroxysms of coughing. Its duration varies from two to three weeks to many months. The cough is always most severe at night, and the first sign of improvement is manifested by a decrease in these nocturnally exacerbations. Then the paroxysms become altogether less severe and less frequent, until at the end of perhaps three weeks or even earlier no symptoms remain. Under the influence of exposure to cold or of improper food, however, the cough may return with all its symptoms, so that for some weeks after apparent recovery great care will be needed. The appetite in simple uncomplicated cases is seldom impaired, even if the cough end in an attack of vomiting, as it so frequently does, the patient has a craving for food directly afterwards and asks for something to eat.

TREATMENT.

To describe all the remedies which have been proposed for the cure of this affection would occupy much space; in fact, there are

few remedies in the whole *Materia Medica* which have not at one time or other been much lauded for it, but as the majority of them are worthless, such a labor is unnecessary. The object of treatment must be to keep the disease *simple*, to prevent other affections from complicating it, for since it arises from a specific contagion, like small-pox or scarlet fever, so it has a tendency to run a certain course uncontrolled by art, but much good can often be done by skillful physicians. Where convulsions threaten or exist bromide of potassa in moderately large doses is highly indicated and is the sheet anchor, in fact, in such cases. It has likewise a very salutary effect upon the cough in all cases. The remedies like antipyrine, belladonna, hydrocyanic acid, and their like; all are very valuable, but must only be administered under the advice of a good physician. When debility and bloodlessness result or remain after whooping cough the bitter tonics and iron should be prescribed, as pulmonary consumption sometimes follows this complaint under such circumstances.

PART VIII.

CHOREA OR "ST. VITUS'S DANCE."

The affection called *chorea*, *chorea sancti Viti*, or *St. Vitus's dance*, is characterized by irregular clonic contractions of more or less of the voluntary muscles, giving rise to movements which are either involuntary or not under the guidance of the will. The manifestations of the affection are usually at first limited to a portion of the body, to one of the upper extremities oftener than elsewhere, and sometimes they are confined, for a time, to the fingers of one hand. The movements increase and progressively extend to both upper extremities, the muscles of the face, and frequently to the lower extremities and to the trunk. The appearances consist of frequently recurring or unceasing movements of the parts affected, producing in the face varied and ludicrous grimaces, and in the extremities and trunk grotesque contortions and fantastic gesticulations. The spectacle afforded by the manifestations of this affection is comical, and it is difficult to realize

that it is not a performance for the amusement of observers. The condition has been well designated an "insanity of movement." The condition, however, if the affection be severe, is truly distressing. The incessant activity of the muscles induces fatigue. The patient may be unable to perform the voluntary acts which the wants of the body require and is completely dependent upon others. Speech may be impaired or lost. Locomotion may be impossible. The isolation is sometimes more complete than in cases in which a considerable portion of the body is paralyzed or several senses abolished. The movements in chorea are usually suspended during sleep, but they sometimes continue, although always more or less diminished. They are increased generally when the patient is conscious of being observed, and under any emotional excitement. The movements are frequently more marked on one side of the body, and this is generally the left side. They are sometimes confined to this side, and the affection is then called *hemi-chorea*. The affection is not accompanied by fever. If this exist, it is due to an intercurrent or co-existing affection. The appetite is usually more or less impaired and the bowels are constipated. Anæmia often co-exists. Irritability of temper is a notable feature and the mental faculties are weakened. Tenderness along the spinal column exists in a large proportion of cases.

The causation of chorea is obscure. It is common to suspect the presence of worms in the alimentary canal, but there is little evidence that the affection is caused by worms. It is sometimes traced distinctly to fright, or to violent mental excitement, as a fit of anger. Its development is favored by anæmia, in most cases patients are anæmic. There is reason for suspecting sexual excitement as a cause in some instances. It may be produced by unconscious imitation. This has been shown frequently by its prevalence in schools. It occurs occasionally in pregnancy. Chorea occurs especially between 10 and 15 years of age. It rarely occurs under 6 years of age. It may occur at any period of life. Henri Roger has reported a case occurring in a female aged 84 years. Graves observed a well marked case in a male aged 72 years. On the other hand, cases have been observed in infants

shortly after birth. Girls are more liable to it than boys, the ratio being as three to one. The duration varies from a few weeks to several months. The average duration is from two to three months. In the vast majority of cases the termination is in recovery. After a variable duration, the affection tends intrinsically to this termination. In a very small majority of cases it becomes chronic, and is incurable. Life may be destroyed by intercurrent affections which, in general, do not suspend the choreic phenomena. A fatal result may take place without any superadded disease, the patient being worn out by prolonged irritation, loss of sleep, and inanition. The incessant movements sometimes give rise to contusions and excoriations which may lead to erysipelas and abscesses, and these may contribute to a fatal result. Occurring in pregnancy it is apt to lead to abortion or premature delivery and hence, is not without danger. Relapses are apt to occur after intervals varying from a few months to two or three years. As a rule, the relapsings are shorter than the primary attacks.

A diversity of remedies have been advocated as effecting a cure of this disease. In general, when different methods of treatment of any disease are found to be successful, it is a fair inference that the disease ends favorable from an intrinsic tendency. This is undoubtedly true of chorea. Of the diverse remedies indicated, none can be relied upon for promptly arresting the course of the disease, and it is doubtful if any exert a special curative agency. It by no means follows, however, that much benefit may not be derived from judicious treatment. The greater part of the remedies are doubtless more or less useful, and the physician is to exercise judgement in adapting them, severally, to individual cases, and in employing them successively in the same case. Rational indications, in the first place, are to be sought for in co-existing disorders or morbid conditions. If there be symptoms, apart from the chorea, pointing to rheumatism, remedies addressed to this condition are called for. Anæmia, in a large proportion of cases, calls for appropriate treatment. Constipation, if present, claims attention. Purgative remedies are among those advocated as efficacious in curing the disease. Causes of peripheral irritation, especially those of sexual origin, should

be removed. Of remedies, other than purgatives, which experience has shown to be useful, the more important are, arsenic, the carbonate and prussiate of iron, zinc, strychnia, opium, cannabis indica, and various antispasmodics. Of the efficacy of arsenic there is abundant and strong testimony. Fowler's solution is the most eligible preparation. Commencing with three or four drops three times daily, the doses should be gradually increased until the characteristic effects are observed. Of the preparations of iron, the carbonate and prussiate have been supposed to exert a curative effect, aside from their usefulness with reference to co-existing anæmia. The writer has been highly successful with the following prescription in these cases :

R

Ammoniated Citrate of Iron (soluble),	2 drachms.
Fowler's Solution of Arsenic,	2 drachms.
Water,	6 ounces.

Dose. A tablespoonful after meals, three times a day, for children.

Of the preparations of zinc, the oxide has been especially advocated as curative in this affection. Strychnia was advocated by Trousseau, who preferred the sulphate dissolved in syrup.

Hygienic measures are certainly not less important than remedies. Alimentation as nutritious as possible is desirable. Daily exposure, and, if practicable, exercises in the open air, are highly important.

The cold sponge bath is useful, provided it be not dreaded by the patient, and it is to be followed by brisk reaction; the shower bath, with the same provisions, is admissible. On the other hand, the tepid bath, as a palliative measure, is highly useful. In the Children's Hospital in Paris for many years much reliance has been placed on gymnastic exercises for the cure of chorea. After the choreic movements have ceased, more or less inability to co-ordinate movements, together with muscular weakness, remains, and these effects of the disease are to be removed by exercise. The power of again directing the muscles is to be acquired as in infancy, but it is acquired rapidly.

CHAPTER XX.

SPECIAL MEDICAL DISEASES.

Pharyngitis, Tonsillitis or Quinsy—Clergyman's Sore Throat or Catarrh of the Throat—
Catarrh of the Nose—Asthma, Its Causes and Treatment. Appendicitis. Bronchitis—
Pneumonia—Pleurisy or Pleuritis—and Their Treatment. Pulmonary Consumption,
Its Origin, Cause, Prevention and Treatment.

PHARYNGITIS, TONSILLITIS OR QUINSY—CLERGYMAN'S SORE THROAT OR CATARRH OF THE THROAT AND THEIR TREATMENT.

The pharynx is the muscular funnel shaped bag situated at the back part of the mouth, which receives the masticated food and conveys it to the œsophagus, in which it terminates. Pharyngitis is inflammation of the mucous membrane of the pharynx : The tonsils are round or oval shaped glands situated between the arches of the palate. They are supposed to emit a kind of secretion which arrests and destroys bacteria. Tonsillitis means inflammation of the tonsils.

Acute inflammation of the pharynx may be limited to the mucous membrane or associated with inflammation of the tonsils. Associated with inflammation of the tonsils it constitutes the affection called *tonsillitis*, commonly known as *quinsy*. The tonsil on one side only or both tonsils may be affected. In their natural state the tonsils can easily be discerned slightly projecting on each side of the fauces, but when inflamed they are frequently very much enlarged, being bright red, and often hanging down, so as nearly to close the passage of the gullet, and render swallowing very difficult. With enlarged tonsils there is always more or less thickness of speech. Acute tonsillitis frequently ends in suppura-

tion ; an abscess forms, and purulent matter, sometimes fetid, and nauseous to the taste, is discharged after a period varying in different cases from two to ten days. When the abscesses point, they may be opened and the patient is thus relieved sooner than if they were left to break. It is a very distressing affection in consequence of the pain and difficulty of deglutition (swallowing), but is very seldom attended with danger. An attack of tonsillitis is sometimes attributable to exposure to cold, but it often occurs without any obvious causation. The causation involves a predisposition to the affection, and persons predisposed are apt to experience repeated attacks. The treatment consists of poultices to the neck, or the water dressing and the inhalation of warm vapor. Quinine in large doses often aborts an attack, so also does guaiacum when given at the outset. Gargles of white oak bark or sumach, alum and Monsell's solution of iron are greatly beneficial. Nitrate of silver applied to the affected part may likewise arrest the inflammation. Tincture of iodine, injected is used to gradually diminish a hypertrophied (enlarged) tonsil. In hypertrophy of the tonsils it is usually the best plan to have the tonsils cut out by a surgeon ; this is not a dangerous nor very painful operation.

Simple acute pharyngitis, that is, the inflammation limited to the mucous membrane, is an affection of frequent occurrence. It is one of the forms of "a cold." The inflammation may extend over more or less of the pharyngeal space and fauces, and upward into the posterior nares. It occasions more or less pain in the act of swallowing and the patient is annoyed by a constant disposition to swallow. After a time a secretion of mucous takes place, and this provokes efforts at hawking and expectoration. The cough is of a peculiar character, being easily recognized as a throat cough. The tonsils sometimes present a deposit of a white material in patches of greater or less size. The condition is inflammatory and is called follicular tonsillitis. These white patches have a resemblance to those seen in diphtheria, and it is very often the case, on this account, that this affection is mistaken for it. The follicular deposit occurs without any abrasion of the mucous surface, but it is common for people to consider the patches ulcers.

Chronic pharyngitis, in this country, is an extremely common

affection. It is commonly known as "the catarrh" or catarrh of the throat. In some persons it occasions but little inconvenience. It is often found when the person makes no complaint of any trouble in the throat. In other cases, it occasions more or less annoyance. An uncomfortable sensation is felt in the throat. The presence of adhesive mucus excites efforts of hawking and coughing. The proximity of the inflammation to the larynx may give rise to a dry, hacking cough. The voice becomes slightly hoarse after considerable use in speaking or reading. The use of the voice is followed by a sense of fatigue in the vocal organs. The affection is more frequent in men than in women, and it occurs most frequently after the age of fifteen and in middle life. From its frequent occurrence among the clergy, it has been called *clergyman's sore throat*; but it is by no means peculiar to the clergy, occurring oftener in persons of other callings. It occasions more inconvenience to clergymen than to others, from the necessity which they are under of using the voice in public speaking, and they are apt to be apprehensive lest it may incapacitate them from preaching. It may be doubted whether the use of the voice leads to the affection. It occurs especially among persons of sedentary habits who suffer from the wear and tear of continued application, without physical and mental relaxation. The number of persons is very large in this country who over-task the powers of the system by steady labor in the office, the counting-house, or the workshop, continued without intermission for many years, giving no time whatever for recreation. It is among those who in this way violate the laws of health that this affection prevails. It seldom occurs among the so-called laboring classes, and it is much more frequent in cities than in the country. It is accompanied with symptoms denoting impairment of the general health. Patients complain of debility and a want of their customary energy; they are apt to fancy the existence of some serious disease especially pulmonary consumption, and it is sometimes difficult to convince them that the latter disease does not exist. Patients with this affection rarely become tuberculous; its existence is to some extent, evidence of the non-existence of phthisis. The treatment, to be effective, must have reference to the system. Topical appli-

cations alone are rarely efficacious. A fair trial of them, however, should be made. The nitrate of silver in strong solution (20 or 30 grains to the ounce) in some cases, especially of the granular variety, is highly useful. A solution of tannin is often of service. The chloride, iodide, or sulphite of zinc, and iodoform are recommended. Projecting a spray of medicated solutions into the throat is an efficient mode. Inhalations carry the medicated application too far and on this account they are not appropriate. On the other hand, gargles are of little use; they do not carry the application far enough. The constitutional remedies which exert a curative influence in certain cases are the iodide of potassium, the bromides, the chlorate of potassa, and the hydrochlorate of ammonia. Alteration of the habits of life is first in importance. Relaxation, recreation, and out of door life are for more efficacious than medicines, and the latter are of little use without the former. When circumstances permit relinquishment of business, for a time, for travel or rural occupations, is of signal benefit. Tonic remedies may often be of advantage, but tonics to be efficacious, should be continued for a long period, and the form of tonic changed from time to time. The diet should be nutritious. The object of treatment, in short, is to restore the general health. The annoyance from chronic pharyngitis is often much enhanced by patients concentrating their attention upon it. They sometimes fall into a habit of constant hemming or "clearing the throat," which is not only fatiguing to themselves, but extremely disagreeable to others. The importance of making an effort to avoid such a habit, and to think of the affection as little as possible, is to be inculcated.

CATARRH OF THE NOSE AND ITS TREATMENT.

Nasal catarrh is an inflammation of the mucous membrane lining the nose, which may be acute, subacute, or chronic in character, and is a very common affection, especially the acute variety. Children are especially prone to it, the attacks promptly following any improper exposure to cold or wet. It is thus likely to prevail extensively in cold, damp, and changeable weather.

Acute nasal catarrh is certainly transmissible by means of the handkerchief. Foreign bodies—buttons, grains of corn, pebbles, peas, cherry-pits, etc., may likewise cause the disease, and should not be overlooked.

Repeated attacks of the acute affection tend to produce, the chronic form of the disease, especially in such persons who are predisposed to catarrhal inflammations. It is sometimes due to syphilis.

TREATMENT.

In the milder cases of acute nasal catarrh but little treatment is required. A hot foot-bath at night, with a dose of Dover's powder, of 5 to 10 grains for an adult, followed in the morning by a single dose of quinine (10 grs.) very often aborts or lightens an attack. When the constitutional disturbance is marked, and especially when fever is present, the person should keep his room. Under such circumstances repeated, small doses of Dover's powder, 2 to 3 grains every two hours will prove of service. Tonic doses of the salts of quinine will likewise do good. In the early stage nothing is so grateful or so efficacious in relieving symptoms caused by the swelling of the mucous membrane as the application of a 2 to 4 per cent. solution of cocaine, applied as a spray or with camels hair pencil. Vasaline to which acetate of morphine may be added, is also a good local application, well introduced into the nasal passages.

Cleanliness is of the utmost importance in the treatment of all forms of nasal catarrh. Prof. Seiler, of Philadelphia, has devised a soothing and cleansing solution which gives great relief used as a spray or snuffed into the nostrils, several times per day. The same is kept in tablets, in all good drug stores. Ask for Carl Seiler's Antiseptic Tablets. Dissolve one tablet in two fluid ounces of water (four tablespoonfuls) and use as spray, douche, etc., and you will obtain more benefit than, by all the quack preparations advertised in our daily newspapers. Nasal injections or lotions should always be warmed before used. In chronic catarrh the system is always debilitated more or less and no suc-

cessful issue can be obtained without the administration of iron and vegetable tonics.

CHRONIC NASAL CATARRH.

In view of the fact that most cases of this form of the disease, require operative procedures, it is needless to add that its successful treatment requires first-class technical knowledge, and I would recommend that persons thus afflicted avail themselves early of the skill of the specialist. But in recommending a specialist, I do not mean the advertising quack, who generally has no knowledge at all of this troublesome affection, merely flooding the country with his spurious literature and worthless nostrums for mercenary ends, but the learned and reputable surgeon who may practice this class of diseases as a specialty.

ASTHMA, ITS CAUSE AND TREATMENT.

Asthma is a disease characterized by periodical paroxysmal attacks of difficult or painful breathing. These paroxysmal attacks may last from a few minutes to several days. The attacks generally come on during the night and are due to a contraction of the bronchial tubes.

Of all the numerous causes of asthma, bronchitis is the most frequent, and it goes without saying, if the attacks of bronchitis can be prevented, or cured, there is no more asthma. The disease is sometimes hereditary (transmitted from the father or mother). Mental emotions, indigestion and hysteria may also be mentioned as occasional causes. There are persons who only have asthma at certain times of the year and in certain localities, the attacks being caused by the inhalation of pollen, or odor of plants. This constitutes "hay fever" or "autumnal catarrh".

The first object of treatment is to cut short the attacks, for which employ such means as will relax the spasmodic contraction of the walls of the bronchial tubes. This can be done in a variety of ways—inhalation of the fumes of stramonium (as suggested in describing this plant), saltpetre, chloroform, sulphuric ether, or nitrite of amyl; a hypodermic injection of one-fourth grain

morphine with one one-hundredth grain atropia, (for an adult), or a ten grain dose of chloral hydrate, given by mouth, will almost instantaneously relieve a spell of asthma. The use of drugs which promote the expectoration, among these lobelia (Indian tobacco), also assists in mitigating an attack.

To prevent the recurrence of the attacks, we examine into the cause of the asthma, and if chronic bronchitis is at the bottom of the affection, the following formula is of tested value by the author: Iodide of potash, muriate ammonia, of each three drachms; syrup tolu, glycerine, paregoric, of each two ounces. Mix, and take a teaspoonful four times a day, an hour after each meal, and on going to bed. Any druggist can put up this mixture.

If the trouble persists, I would recommend change of climate and mode of living. In the selection of climate for the asthmatic, there is, however, no rule to guide us. Each person must travel from place to place until he finds the particular spot where he ceases to have asthma.

APPENDICITIS—CAUSE AND TREATMENT.

Appendicitis—is an inflammation of the Appendix Vermiformis, a long, narrow, worm-shaped tube, the rudiment of the lengthened cæcum found in all the mammalia; it varies in length from three to six inches, its average diameter being about equal to a goose-quill and terminates in a blunt point. It is retained in its position by a fold of peritonium. Foreign bodies, like seeds from grapes, cherry pits, etc., feces and other sources of irritation easily set up inflammation. Appendicitis is a frequent affection in our time and its assumed rarity in former years is explained by the fact that the disease was not so well understood, as at present. The symptoms, are about as follows: rise of temperature or fever, nausea (perhaps vomiting), abdominal pain, sometimes intense, often diagnosed as mere colic, and tenderness of the more or less rigid muscles. The point of greatest tenderness is found over a spot about two inches from the upper and highest point of the left hip-bone, on a line extending from this point to the navel. Upon

deep pressure or feeling, a tumor may often be felt, marking the seat of the impaction, swelling and inflammation.

TREATMENT.

Suppuration ordinarily takes place ; although under judicious management—morphine hypodermatically (injected as near the seat of the pain as possible) with hot applications etc., we may succeed in soothing down the attack, and the impaction may work its way back into the intestines, especially if the same is merely feces, and recovery may take place without an operation, but with perforation, death is sure to come. Surgical or operative interference is always indicated and should not be too long deferred. Ordinarily an incision four and a half inches long should be made in the seat of the swelling—all pus carefully removed, the appendix ligated (tied) and cut off ; the parts thoroughly washed out with disinfectants, and packed with antiseptic gauze and recovery is rapid and undisturbed. With our present knowledge of antiseptics this operation is not at all dangerous—if resorted to in time. But it goes without saying that only a very skilled surgeon should be called to operate.

BRONCHITIS AND ITS TREATMENT.

Bronchitis is an inflammation of the lining membrane of the bronchial tubes. This, in its ordinary form, is the most frequent of the pulmonary inflammations, and is a very common affection in all parts of the globe. The inflammation is limited, generally, to the large bronchial tubes and if not associated with other affections, a dangerous disease only when it occurs in the young, aged, and feeble. The danger in these classes of patients, arises from the accumulation of the products of inflammation—mucus, etc., within the bronchial tubes, and the danger is from suffocation chiefly. Capillary bronchitis is an inflammation of the small tubes, and is a very grave form of the disease, especially in children, but it is happily quite rare in grown people. The affection may be acute, subacute, or chronic in form, and the degree or severity and duration of the inflammation depend on these varieties. Bronchitis in its epidemic form constitutes influenza or la grippe.

SYMPTOMS.

Acute bronchitis is most generally preceded by coryza (a cold in the head) or an acute catarrhal inflammation of the mucous membrane lining the nose, traveling downward, either affecting, or passing by, the pharynx and larynx in its passage to the bronchial tubes. The time occupied in its passage may vary from a few hours to one, two, or three days. In some cases, the bronchial tubes are attacked at once, without any affection of the air-passage above, and again the subsequent inflammation in the bronchi, may not have extended from the nose, etc., but by a separate invasion from a common, internal determining cause. Pain in the chest is seldom a prominent symptom, differing in this respect very greatly from acute pleurisy and pneumonia, which are very painful. But there is a sense of tightness and of soreness or rawness. These painful sensations especially accompany acts of coughing. The appetite may be more or less impaired, but is not usually lost. The pulse and temperature are not notably affected. The average duration of acute bronchitis is ten to twelve days. The affection is seldom accompanied by much debility—patients are generally not confined to the bed, and they may not confine themselves to the house even. Cough is often the most prominent symptom. It is at first dry, the secretion of mucus being for a time scanty. Deep inspirations, breathing cold air, and the exercise of the voice excite acts of coughing. The expectorated matter is often streaked with blood, and is at first small, frothy and sticky, but in the progress of the disease, after two, three or four days, the expectoration becomes more abundant, and consists of thick, yellowish, or greenish matter. The cough is then said to be loose, the expectoration is much easier, the pain and soreness cease, and the person becomes much more comfortable.

Causation.—Bronchitis is most generally produced by the action of cold, and the affection is popularly known as “a cold.” Exposure to cold is supposed to produce the disease by interrupting or checking the perspiration or the eliminative functions of the skin, whereby an increased duty is thrown upon the mucous membrane of the lungs and by inducing internal congestion. The

disease may also be produced by irritating gases received with the inspired breath or develop the course of other diseases, as a secondary affection.

TREATMENT.

Acute bronchitis can be prevented in many instances, on the appearance of coryza, or the snuffles, by a full opiate and diaphoretic (an agent producing sweating). A ten grain dose of Dover's powder (which can be obtained at any drug store), serves this purpose well—which should be taken for this object at bed time, accompanied by a hot foot-bath and some warm stimulating drink—like weak punch or toddy, or plenty of warm tea, followed in the morning by a good purgative. If this plan of treatment does not succeed in stopping bronchitis, or a cold, it may mitigate the severity of the affection. A full dose of quinine (5 to 10 grains to an adult) will often act as a preventive, or, given at once when the bronchial tubes become affected, as an abortive remedy. The same dose of salicin, repeated once or twice after an interval of two hours, will be equally effective to prevent or arrest the complaint. If the disease become established no very active treatment is necessary, in view of the almost uniform tendency to recovery with mere attention to hygiene.

The following is a very valuable cough mixture :

R	Syrup of Ipecacuanha,	one ounce.
	Paregoric,	one ounce.
	Simple Syrup,	one ounce.

Mix. Take two tablespoonfuls every hour. The dose for a child one to five years is half to a teaspoonful. Coxe's Hive Syrup, may be substituted for the ipecac. During the acute stage, if pain and soreness of the chest be prominent symptoms, mustard plasters or stimulating liniments are useful. If the affection linger and threaten to become chronic, quinine or chinconida and other tonics, together with a nutritious diet become necessary. In protracted bronchitis or in the chronic form of the disease. I have been led by experience to regard the following prescription as invaluable, viz. :

R

Iodide of Potassium,	three drachms.
Compound Syrup of Squills,	one ounce.
Glycerine,	one ounce.
Paregoric,	one ounce.
Simple Syrup,	one ounce.

Mix. Take a teaspoonful, four times a day, after each meal and before going to bed. Children according to age.

ACUTE BRONCHITIS IN YOUNG CHILDREN.

Acute bronchitis in young children, is surely the most frequent disease of early life. It is usually associated, like in the adult with more or less inflammations in the nose and windpipe. It occurs both as a primary and secondary disease. The secondary form is very common in connection with measles, whooping cough, pneumonia, and consumption, and is not rare in scarlet and other fevers. Its severity or mildness as in grown people, depends, on the grade of the inflammation ; that is, on the acute, subacute, or chronic form. Bronchitis usually affects the tubes on both sides with about equal intensity.

Causes.—The cause of primary bronchitis is the same as that in other simple acute inflammation of the air passages and lungs, namely : sudden change of temperature from warm to cold, exposure to currents of air, the practice of sending the children without proper or sufficient clothing from heated rooms into the open air, the throwing off of bedclothes at night, etc. Teething may also be an occasional cause.

Symptoms and Prognosis.—The symptoms of acute bronchitis in children vary very greatly in severity in different patients. It usually commences with more or less coryza. Other symptoms are headache, flushed face, heat or elevation of temperature, acceleration and fullness of pulse. In the mildest cases these symptoms are scarcely appreciable. The child is noticed to sneeze, have some running from the nose, perhaps no appreciable heat, and but a mild cough, being well in the course of a few days. But there is a graver and severer form of the disease, also a common

occurrence, when the inflammation is of a severe type, exclusive of those cases in which the minute branches of the bronchial tree are affected. In severe bronchitis the pulse rises to 120 or 130 per minute, and the breathing is in like degree accelerated. The cough is frequent and painful. The face is greatly flushed and indicative of suffering, much heat with great impairment or perhaps complete loss of appetite. It may commence quite abruptly, but ordinarily it results from the milder form of the disease, the inflammation having extended downward. When the disease thus affects the smaller tubes and air-cells it constitutes capillary bronchitis or suffocative catarrh and is a very dangerous affection. Sixty to eighty respirations are not unusual, while the pulse rate may attain as high in number as 140 to 160 or 180 beats per minute. The little patient is very restless, moving from one part of the bed to another, seeking in vain for relief.

The face now becomes ghastly pale, the lips blue, and the tips of the fingers blue and cold; an unfavorable prognostic, but not a few recover under stimulation in whom it occurs in the hands of skilled physicians.

TREATMENT.

Bronchitis in children may be rendered much milder, and, perhaps even prevented, by an emetic employed in the first twelve or twenty-four hours, in connection with a warm bath. But as the physician is not, ordinarily called sufficiently early to render this treatment effectual, it devolves upon parents and attendants, to early administer, in a severe cold or cough, a mild medicine to procure vomiting. The following is a good mixture for the purpose:

R

Compound Syrup Squills,	one ounce.
Syrup Ipecacuanha,	one ounce.
Simple Syrup,	one ounce.

Mix. Give a teaspoonful to a child one year old every half hour till vomiting is produced when it may be given with very great benefit, in somewhat smaller doses to loosen the cough.

Sweet spirits of nitre is beneficial, especially in cases of heat. A good laxative as a full dose of castor oil should always be given in a case of bronchitis at its commencement. The following formula will also be found useful for infants affected with simple bronchitis :

R

Sweet Nitre,	two drachms.
Syr. Ipecac,	two drachms.
Castor Oil,	two drachms.
Syr. Tolu,	four ounces.

Mix. One teaspoonful every two hours.

If there is much heat one or two drops of tincture of digitalis according to the age may be given with the foregoing mixtures.

If these means do not succeed in relieving the little patient call a physician.

The following formula is of great merit when a stimulating cough remedy is indicated :

R

Carbonate of Ammonia,	twenty grs.
Tinct. Sanquanaria,	twenty-five drops.
Syr. Senega,	two drachms.
Extract Licorice,	one drachm.
Water,	two ounces.

Mix. A teaspoonful every two hours for a child two years old.

The chest should be well protected with oiled silk, woolen cloths or packed with cotton. Stimulating liniments, small mustard plasters or warm hop-bags applied to the chest, should not be neglected.

PNEUMONIA.

Pneumonia, or pneumonitis, is an inflammation of the substance of the lungs. In technical language the term, pneumonitis, designates inflammation of the panenchyma (whole body) of the lungs as distinguished from those of the bronchi and the plura.

In other words by panenchyma of the lung is meant the air vesicles, the air passages, and the smaller bronchi. It is also known as lung fever and popularly as "breast fever." There are few countries in which it does not prevail. In the United States it is said to be more frequent in the South than in the North and of most frequent occurrence from February to May. The disease occurs much oftener among males than females. Tuberculous patients are not particularly prone to this disease. It also prevails much more in some years than in others. In a large portion of cases, the disease is developed spontaneously; that is, it is not referable to any obvious causative agency. It has as yet not been settled, whether it is contagious or not. Medical writers divide the disease into three stages, designated the first, second and third stages, but the scope of this article does not allow to describe the affection so minutely. The prognosis in acute pneumonia depends largely on the extent of lung involved, the intensity of the fever, its complications, the previous constitution of the patients, etc. In the aged and feeble it is a disease of much gravity in a severe form. The disease is readily known to the educated physician by the physical signs, as revealed by auscultation (the act of listening to the respirations) and percussion (the act of sounding the chest with short quick blows, as upon the fingers, etc.) The characteristic rust-colored expectoration, is also an infallible sign of the disease.

TREATMENT.

Experience has abundantly shown, that the measures formerly employed to arrest or abort the disease, as blood clotting, cathartics and other remedies entering into the so-called antiphlogistic method of treatment, cannot be relied upon for the arrest of this disease, more than of other inflammations. Full doses of quinine, that is, from 20 to 40 grains, "given either at once or within eight or ten hours may arrest the disease." (FLINT). The physician will try, at the commencement, which we call the first stage of the disease, to lessen the intensity of the inflammation, to lower the temperature of the body, to relieve pain, and to promote toleration of the disease in general. After the operation of a saline purgative,

if the skin is hot, dry, and the pulse frequent, tartar emetic, or some antimonial preparation in small doses as a nauseant or sedative are indicated. Tincture of aconite in one or two drop doses is an effective sedative in these cases. Opiates are valuable, in the first two stages of pneumonia, in doses sufficient to relieve the pain and tranquilize the system. Stupes, or warm fomentations, applied to the chest, are very useful. If the fever be high as shown by a temperature of 103° or more, antipyretic measures are indicated. These measures consist in the administration of quinine in full doses, acetanilid, antipyrine and others of the same class.

Cold—by means of the bath, the wet sheet, or sponging of the body, has the same effect. Whenever, after this object is accomplished, the temperature rises, cold is to be applied again. It is highly desirable that the employment of these measures be under the personal direction of the physician, or an experienced assistant and the operations guided by the use of the fever thermometer. The writer is fully aware that popular opinion is as yet strongly opposed to the application of cold in case of fever or heat, and patients submit with great reluctance generally at first, besides the physician incurs a risk of being blamed if the cases do not do well, but it is a safe and ready means of reducing temperature. Indeed unattended by any risk, although, from prevalent ideas, it seems hazardous in the minds of the laity. "The axiom that patients with fever do not take cold, is one which it is extremely desirable should become popularized. Popular apprehension on this score often stands in the way of proper ventilation in cases of disease." (PROF. AUSTIN FLINT). The treatment in the second stage has reference to the promotion of resolution (subsidence of the morbid process, to their normal condition), palliation of symptoms, and supporting the powers of life. Blisters are not advisable, but repeated applications of tincture of iodine or turpentine stupes may be beneficial. Expectorants as a rule are not indicated, the matter of exudation is not expectorated. The expectoration in the second stage of the disease is due to bronchitis in the affected lobe or lobes. The mucous products in the grown, rarely accumulate in the bronchial tubes to an extent

to occasion inconvenience. The main object of treatment in the second stage is to support the powers of life. Resolution will be sure to begin and continue if the life of the patient be sufficiently prolonged—the chief danger being from failure of the vital powers before resolution takes place. Supporting measures should not be deferred too long or until the symptoms denote imminent danger from failure of the powers of life, as they will probably be too late. The supporting treatment embraces nutritious diet, alcoholics and tonic remedies. Of tonic remedies, quinine in 2 to 4 grain doses is to be preferred, repeated every three hours. Whiskey or the alcoholics form an essential part of the supporting treatment here, as in all other diseases whenever the object is to keep alive the patient until the disease has reached the end of its career.

PNEUMONIA IN CHILDREN.

The treatment of acute lobar pneumonia in children calls for the same principals as the treatment of the disease in adults. Antimonial preparations, aconite, antipyretic medicines, and opiates are alike useful, but must be given with the greatest care. If seen at the commencement or within a few hours of the commencement, an emetic of ipecacuanha may be given. This acts promptly as a cardiac sedative—thus diminishing the heat and retards somewhat the afflux of blood towards the lungs, and so moderating the inflammation, but it should never be employed except on the period stated. Heroic treatment in children, is pernicious. Many recover with the simplest treatment—mucilaginous drinks or mild expectorants, like syrup of squills, or ipecacuanha in small doses. Warmth to the chest—with stimulating liniments, or turpentine stupes must not be neglected. It is of the highest importance to keep the bowels open as a part of the treatment, especially in the first stages. Castor oil answers this purpose well, or the physician may give a purgative dose of calomel with advantage. The diet should be nutritious, consisting of milk, animal broths and the like, especially after the first three or four days. Counter irritation with mustard plasters, or camphorated oil

covered with oiled silk is invaluable in the latter stages of the disease. A poultice, if the breathing is oppressed and painful, applied over the chest, does much good. Stimulation, with carbonate ammonia, wine or whiskey often becomes imperative.

ACUTE PLEURISY OR PLEURITIS.

This is an inflammation of the plura (the serous membrane lining the lungs and chest walls of the breast). While pleurisy is a disease of all ages of life, it occurs more frequently in grown persons than in children. It is more common in men than in women. It is most apt to prevail in the cold and changeable weather of winter and spring. It frequently complicates other diseases of the chest, like influenza, phthisis, (especially the dry form of pleurisy), etc. The invasion is generally sudden, and often without premonition. It is sometimes ushered in by a well pronounced chill. Pain in the affected side attends the onset of most cases. The pain which is usually intense, is sharp, cutting, or lancinating in character, being much increased on coughing or sneezing. The pain is much increased during the act of inspiration. Cough is usually present, though it is sometimes wanting. The pulse seldom rises above 100 while the temperature is rarely above 102° Fahrenheit. Effusion of serum or water takes place in the pleural cavity.

TREATMENT.

Morphine, or preferably Dover's powder for the pain. Diuretics like nitre, squills, digitalis, with absorbents, externally like iodine, mustard, etc., to remove the effusion. A purge of jalap and cream of tartar, will remove the effusion if the other means fail.

PULMONARY CONSUMPTION.

The names pulmonary tuberculosis and pulmonary phthisis are synonymous terms, and are the names by which consumption of the lungs is known by the medical profession. It is caused by

the growth in the body of a microscopic plant or germ (known as the bacillus tuberculosis) which sets up inflammatory conditions of the lungs, causing intense cough, fever, wasting, and death in many cases within two or three years. The germ causes the growth in the lungs of little masses known as tubercles, and as the disease progresses these soften and break down, and are expectorated by the patient. The expectoration contains millions of these minute plant bodies which, when the expectorated matter has dried, are set free and are blown about here and there by the winds or air currents of houses. They are taken into the lungs of some other person by breathing, and if they find a soil suitable for their growth, again produce the disease. If we could but destroy all these germs which are the sole exciting cause of the disease, consumption could be completely stamped out, for there is no doubt that it is a communicable, that is, a contagious disease. It is timely that the people in general thoroughly understand this fact and realize that consumption is *communicable* and therefore *preventable*.

The gravity of the disease should also be fully appreciated. Ceaselessly during every hour of time, by night and by day, fifteen persons die of consumption in the United States *alone*; and at *least* one-seventh of all who die among civilized races die of tuberculosis of some form (the disease may affect the brain, larynx, peritoneum, coverings of the brain, kidneys, etc., and destroy life, without the lungs becoming involved).

We have become, in regard to this disease, like men in battle who see their companions dropping from the ranks with almost fatalistic indifference. An every-day occurrence soon becomes unnoted.

Consumption is preventable.—This should be the cry all over the land. The exciting cause, as already stated, is positively known to be the germ called the bacillus tuberculosis, and without it the disease could not occur, but there are many predisposing or helping causes which enter into the production of consumption, and these must not be neglected. The germs are the seeds, but like all other seeds they must have a suitable soil in which to grow. There are a number of diseases which are likely to be

followed by pulmonary consumption, notably among them typhoid fever and measles : likewise may it occur after an attack of bronchitis, pleurisy or pneumonia, but these affections are only causative in this respect in so far as they tend to debilitate and lower the general system, and bring on a cachexia, or bad state of health, which favors indirectly the development of phthisis, and not by their intrinsic tendency. It consequently behooves all those who may be so unfortunate as to become ill with these disorders, that they exercise particular care and do not neglect to become fully restored after such diseases, by the use of the bitter and ferruginous (iron) tonics. Under such circumstances, the anæmic state certainly favors the development of the germs of this scourge. Until recent years it was held that consumption was inherited, and, believing this, it was natural that we should fold our hands and allow the consumptive-tainted to die. While we know now that the disease is not directly transmitted by inheritance (the germ does not pass from father or mother to the offspring) there is undoubtedly, however, a marked tendency to contract the *disease when exposed to the exciting cause—the germ*, and as the disease may develop much more readily in persons of consumptive parents, every possible precaution should be taken by such individuals to avoid the exciting causes, and so increase all possible resistance to the disease.

No age is exempt from a liability to consumption, but the disease is most liable to be developed between the ages of twenty and thirty years. As regards season, the disease is oftener developed during the spring months and the hot months of summer than at other portions of the year. Consumption is largely a disease of civilization, due to living in close, poorly ventilated houses, filthy cities and amid other unhealthy surroundings. Newly settled places are frequently to a great extent exempt for some time, from its prevalence. It prevails less in climates either uniformly warm and dry, or uniformly cold and dry, than in those which are moist and subject to frequent variations. Damp soil and damp houses, and all the unsanitary conditions which produce lowered health, act as predisposing causes. A high altitude affords protection against the disease. It prevails more on the seaboard than in inland situations.

Certain occupations also tend to produce it. The disease prevails much more among those whose pursuits are sedentary than among those whose occupation involves outdoor life. Want of exercise, defective ventilation, (especially occupations where there is constant breathing of foul air filled with irritating dusts) deficiency of light, and the depressing emotions undoubtedly contribute largely to the production of the tuberculous cachexia. The influence of these several causes just mentioned is seen even in the greater liability of domesticated animals to tuberculous disease than of the same animals in a wild or unconfined state. The stabled cow, the penned sheep, the tame rabbit, the caged monkey, lion, tiger or elephant, are almost invariably cut off by tuberculous affections. On the other hand, while certain diseases or conditions exert an influence to promote the development of tuberculosis, there are affections and circumstances which prevent it. Persons affected with cardiac lesions which interfere with hæmatisation (aëration of the blood) rarely become tuberculous. It rarely occurs in people affected with pulmonary emphysema (abnormal distension of the air vesicles). The infrequency with which the disease is found in the post-mortem examinations of those who have died from intemperance, has led to the supposition that the use of alcohol antagonizes the tuberculous cachexia. Pregnancy has been supposed to antagonize the tuberculous habit, and marriage has sometimes been advised as a prophylactic (preventive) and even curative measure, but facts do not afford support to this supposition. The writer is of the opinion that lactation greatly favors the progress of the disease. Chronic pharyngitis, or catarrh of the throat does not eventuate in consumption or any affection of the air passages, and the dazzling advertisements in our daily papers by the numerous unscrupulous quacks, who try to alarm the people, for mercenary ends should not be heeded.

HOW PREVENTED.

In the prevention of pulmonary tuberculosis, we must first consider the destruction of the germ—the exciting cause, which we find principally in the matter expectorated by consumptives.

The germ in the breath of the patient, and in the exhalations or excretions from the body, is not communicable except when the bowels have become affected and when it may be present in the stools. Consequently there is no danger in associating with a consumptive, nor in allowing him to go abroad, if we destroy the germs contained only in the expectoration ; and the expectoration only becomes dangerous after it has dried and the germs are liberated. The best way to destroy the germs is by burning the expectorated matter, or by casting it into a solution containing a disinfectant, strong enough to kill them. When handkerchiefs or cloths are used for the sputa, or when the patient expectorates on the floor, or into a dry cuspidor, the germs become free by drying, and are blown about the room, settling upon the floor, furniture, window ledges, walls, etc. Such a room is dangerous, and especially so if poorly ventilated, and particularly to any person predisposed to the disease. It has been positively proven that these dried germs will remain alive and active for the production of the disease for several months. With very careless, or very ill and feeble patients, the clothing and bedding may become soiled, with expectorated matter, and become a source of danger to others. Consumptive patients on the streets frequently, perhaps usually expectorate on the ground or pavement, and the germs becoming dried may be blown hither and thither, endangering possibly the lives of hundreds. In various other ways a person afflicted with consumption, through ignorance or a criminal disregard for others, may sow the seeds of death broadcast. While consumption or pulmonary tuberculosis, is the most common form of tuberculosis, the germ may, however, grow in other parts of the body. Tuberculosis of the bowels is of frequent occurrence, especially in children, and is usually produced by eating meat or drinking milk from an animal affected with the disease. Tuberculosis prevails much among animals, especially milch cows, to an unknown but very great extent, so that the danger from this source is considerable ; and health authorities should be cordially supported in every possible effort to prevent the sale of infected animal products, and thus prevent the spread of this direful disease. There should by all means be special hospitals estab-

lished for consumptive patients—where these unfortunate persons should be kept and treated exclusively ; and I believe the time is coming, sooner or later, when such will be the case. The individual communion cup should likewise be instituted by our church authorities as a preventive measure.

TREATMENT.

Consumption in its earlier stages is, in many instances, *curable* as well as *preventable*, but the chances of recovery are greatly reduced by living in an atmosphere highly infected by the germs of the disease, as the patient may reinfect himself. It is consequently of paramount importance to the patient, as well as to those around him, that his infectious expectorations should be promptly destroyed. The great and first object of treatment is the removal of the constitutional morbid condition—cachexia—on which the disease depends. Measures addressed to the pulmonary (lung) affections are of secondary importance, as the cough, weakness, etc., are merely symptoms of the disease and not the disease *per se*. The chief end to be kept in view is the prevention of further increase of this affection, or, in other words, an arrest of the disease. It is immensely desirable for the arrest to take place as quickly as possible, while the local affection is limited and the pulmonary damage proportionally small ; and with a view to a speedy arrest the importance of an early diagnosis can hardly be overrated. It goes without saying that the best physician, one well up in auscultation and percussion of the chest, should be consulted in time. Professor Austin Flint, in his admirable work on "Practice of Medicine" says: "The mortality from this disease has undoubtedly diminished within the past three decades. This must be obvious to medical observers whose professional experience extends backward for forty or fifty years. The diminution which has already taken place in the death rate from this disease, affords ground for the hope that its formidable character may be still further mitigated." He further writes: "The different modes in which the disease may pursue a favorable course have been already stated. The entire deposit may be

absorbed or calcification of the caseous products may occur, forming the so-called obsolete tubercles or calculi, and these may remain quiescent, or they may find their way into the bronchial tubes and be expectorated. Cavities may completely cicatrize. In these modes complete recovery may take place. This, of course, is the most satisfactory termination. And next to this is the persistence of cavities without any fresh products, the cavities giving but little inconvenience for an indefinite period, and even through a long life. According to these different modes in which the course of the disease is favorable, cases may be divided into those in which an arrest takes place without recovery, and those in which the arrest is followed by recovery. Whether recovery follows or not, depends on the extent of the local affection and other circumstances. Not infrequently an arrest takes place, with or without recovery, and, after the lapse of months or years, a fresh irruption occurs. The latter, then, is not properly a continuance of the disease, but a recurrence of it." He further says, "The disease may cease to progress and end in recovery because it is self-limited."

During a period of thirty-four years this eminent doctor treated 670 cases of consumption of which he kept a complete record; of this number 44 ended in recovery and in 31 the disease was either arrested or ceased to progress.

All remedies which improve the appetite, digestion, assimilation and nutrition are in a greater or less degree useful, both as to the prevention and cure of phthisis pulmonalis. Hence, quinine in tonic doses, salicin, strychnine, the bitter tinctures or infusions, the mineral acids, iron with minute doses of arsenic, iron and maltine, or iron alone, cod liver oil, the compound syrup of the hypophosphites, etc., meet indications in cases of this kind. Expectorant remedies, as a rule, are not called for. They diminish appetite, occasion nausea and are apt to disturb digestion. But remedies to allay excessive cough, that is, cough not required for expectoration, are useful, and for this end small doses of the different preparations of opium, like paregoric elixir, give good results. The inhalation of the following mixture, by the use of a proper inhaler:

R

Beechwood Creasote,	30 drops.
Chloroform,	10 drops.

(Small quantities of terebene, menthol or eucalyptol may advantageously be added).

Inspire deeply, lengthening the pause of the inspiratory act to facilitate intra-pulmonary gaseous diffusion. This has a very salutary effect on the cough, aside from the germicide, or curative virtues which it may possess.

RULES FOR PREVENTION OF PHTHISIS.

1. In the house the expectorations of a consumptive patient should be received on bits of old cloth or Japanese paper and be burned *at once*, or received in cuspidors or spit-cups containing a solution of—

Labeled Poison	{	Corrosive Sublimate,	one drachm.
		Muriatic Acid,	two ounces.
		Water,	one gallon.

Keep a small quantity constantly in the spittoons. A solution of carbolic acid will serve the same purpose.

2. The clothing and bedding of the patient should be laundered separately, and thoroughly boiled.

3. Sweeping should be done with a dampened broom, or wet tea leaves or sawdust on the floor, and the dust removed from the furniture, etc., with a cloth, wet with the disinfectant solution.

4. Dishes, glasses, cutlery, etc., used by a phthisical patient should be scalded before being used again.

5. It is better for the patient and safer for others that the consumptive sleep in a room alone, and especially in a bed to himself.

6. The disease may be transmitted by kissing, especially kissing upon the mouth.

7. Phthisical patients should sleep in well ventilated rooms. In conformity with popular notions they are apt to fear the cool or cold air of night.

8. A fire may be kept in sleeping rooms in the winter season, but the windows should be kept open. Damp houses are injurious.

9. Be careful to eat all meat cooked well done, as this will destroy the germs. Remember that boiling will destroy all germs in milk, and young children (who are especially prone to tuberculosis of the bowels) should be given only boiled milk.

10. A mother with consumption should not suckle her child as she may infect it through her milk.

11. Do not move into a house, or sleep in a room in which a person has died of or been sick with consumption, until it has been properly disinfected.

12. Avoid as far as possible occupying any length of time with a consumptive person, in badly ventilated room, car or vessel.

13. In selecting a mate in marriage, choose one free from any inherited scrofulous or tubercular taint.

14. If of consumptive parents or if a tendency to the disease has been inherited, be specially guarded against all sources of infection. In addition choose an out door occupation as free as possible from dust; use every means to secure a good physical development, particularly of the chests and lungs; a course of tonics occasionally, especially iron and maltine, may be indicated; select a dry soil for a habitation, and have living and sleeping rooms freely ventilated and well exposed to direct sunlight.

15. The body should be protected against atmospherical changes, the temperature and functions of the skin being maintained by warm clothing. This is sound advice to consumptive patients as well as to all those who would avoid the disease. The garments worn next to the body should be made of a material which is a good non-conductor of heat and electricity—namely *wool*. This applies to all seasons of the year.

NOTE.—The writer respectfully begs leave, herewith to endorse and recommend Dr. Jaeger's Sanitary Woolen Underwear, as the best for this purpose in the market.

CHAPTER XXI.

SPECIAL MEDICAL CASES.

Sick Headache and Its Treatment—Convulsions, Epilepsy or Falling Sickness—Hemorrhoids or Piles and How to Relieve Them—Sciatica, Its Cause and Treatment—Diabetes and Proper Diet for the Diabetic—Diarrhœa in Grown People and Dysentery, and Their Treatment. Bright's Disease—Aphasia—Intermittant Fever or "Fever and Ague," and Malaria, Its Cause, Prevention and Cure—La Grippe—Scarlet Fever, Its Origin, History, Prevention and Treatment—Typhoid and Typhus Fevers and Asiatic Cholera and Their Prevention—Delirium Tremens, Hysteria, Neuralgia, Gastritis, Rheumatism, Nettle Rash, Erysipelas, and Peritonitis and Their Treatment—Scabies or "Itch," and Pediculi, or Lice and How to Get Rid of the same—Diphtheria and Measles.

SICK HEADACHE.

Headache, technically called cephalalgia and migraine, is an extremely common affection. Pain in the head is almost a symptom occurring in many diseases; as in inflammation of the lining membrane of the brain; or inflammation of the brain itself; in the essential fevers; syphilis; intracranial tumors, etc., but the writer wishes to limit this article simply to functional or sick headache. There are few persons who do not occasionally experience an attack after childhood or adult age, and there are very many who are subject to attacks recurring some times at regular, but usually at irregular intervals, for many years, or during lifetime. A host of persons suffer from it, who either do not consider it of sufficient importance to resort to medical treatment, or, having found treatment ineffectual, resign themselves to it as an irremediable malady. When it affects one side of the head it is usually called *hemicrania*, (from *hemi* half, and *crania*, head.) Without nausea or vomiting the affection is commonly known as *nervous headache*, and when nausea

and vomiting occur, it is called *sick headache*. It occurs in paroxysms, lasting usually from twelve to twenty-four hours, in some cases being of shorter duration, and occasionally continuing for two or three days.

The pain in different cases, or in different attacks in the same case, differs much in degree. An attack is often not severe enough to prevent habitual occupation, but in some instances the intensity of the pain is such that the patient is unable to be about, and perhaps is obliged to take to bed. The pain is sometimes referred to the forehead, sometimes to the back of the head, and sometimes to the whole head. The character of the pain as described by patients, differs. It is sometimes sharp or lancinating, like the pain in neuralgic paroxysms. In other cases, it is a dull heavy pain. Patients sometimes say that they feel as if the head would burst. Firm pressure upon the head, especially over the temples, often affords momentary relief. Frequently rubbing or shampooing the scalp with considerable force diminishes the pain. There is frequently an abnormal sensitiveness to light and sounds; and in severe attacks the patient seeks perfect quietude in a dark room away from all noise. The appetite during the attack is either impaired or lost. The odor of food is often disagreeable. The face is in some cases flushed and the eyes suffused, and the temperature of the head raised. In other cases, especially if nausea and vomiting occur, the face is pallid and the head may be cool. Free vomiting, although the stomach may not contain any aliment, is sometimes followed by relief.

Accompanying the foregoing local symptoms, is more or less general debility or prostration. There is rarely fever; the pulse is generally small and feeble, and the surface of the body cool. Occasional shiverings are not uncommon. Disturbed action of the heart, or palpitation, is not unusual during the attack.

The attack gradually passes off sometimes with the occurrence of free evacuations from the bowels, or an abundant secretion of urine, or a profuse perspiration. The attack is apt to be developed in the morning, pain being experienced on awakening from sleep, and is likely to continue until after sleep is obtained on the following night. Persons subject to the affection are able, some-

times, to predict its advent by a feeling of lassitude, depression of spirits, or a sense of indefinite discomfort. After the attack has passed off, there is frequently, for some time, a sense of soreness in the head, with more or less general debility. Often however, the mental faculties are clear and the spirits buoyant after recovery from an attack.

The affection involves a constitutional predisposition. Persons are subject to periodical attacks of headache, as of asthma, or epilepsy. The predisposition existing, various exciting causes may determine an attack : such as mental excitement, deprivation of sleep, bodily fatigue, exposure to the sun's rays, and dietetic imprudence. Women are more subject to it than men, and it is apt to occur at the menstrual period. The predisposition varies in degree in different cases, as is shown by the frequency or rareness of the attacks. The predisposition ceases after the age of forty or fifty ; persons who have experienced attacks, more or less frequently, from adult age up to the periods of life just named, thereafter are exempt from their recurrence. This may be stated as a *rule*, but unhappily, there are not a few exceptions.

The affection is neuralgic in its character, but it is difficult to determine its precise seat. It is not an incongruity that anemia and congestion alike may give rise to the cephalalgia.

TREATMENT.

Periodical headache, as regards successful treatment, belongs among the opprobria of medical art ; yet in a great many cases, much benefit may be derived from treatment. The treatment embraces measures to be employed at the time of an attack, and during the intervals. If patients be not unpleasantly affected by opiates, an attack may be sometimes warded off, or abridged, or its severity lessened, by a full dose of opium in some of its forms, or of its alkaloids, morphia or codein. The carbonate of ammonia and also the aromatic spirits of ammonia are sometimes successful in affording relief. A saline purgative, taken at the commencement of the attack, is in some cases an effectual remedy. The bromides given in full doses are sometimes efficacious. The fol-

to attacks is less, the more the laws of health are observed. When habitual constipation exists that matter should receive proper attention, and the reader is referred to the chapter treating on this subject.

Avoidance, as far as possible, of everything which experience shows, in individual cases, to act as exciting causes, is an important part of the rule to be observed by the patient during the intervals. I have very often, permanently cured sick headache with tincture of quassia, in teaspoonful doses given before meals, as well as by five grain doses of quinine just before eating. Tincture of cannabis indica in thirty drop doses three times a day, taken for some time will also succeed in effecting a cure.

CONVULSIONS, EPILEPSY OR FALLING SICKNESS.

Convulsions or "fits," as they are often called, are a frequent cause of alarm in the streets, or at public assemblages. In the decided majority of instances, the convulsions may be safely presumed as epileptic; so unless otherwise specified, the remarks here made apply to that form. Ordinary *fainting* may be confounded with it; but here the face is pale, the person perfectly still, and there is no perceptible breathing. Besides, in fainting there are no convulsive movements. Often the epileptic seizure is ushered in with a peculiar *sharp cry*, as the person falls over. It does not always occur, but when it *does* there can be no doubt, if it is a convulsion at all, that it is epileptic. There is frothing of the mouth, sometimes tinged with blood from the tongue or a fold of the lips having been caught between the teeth at the moment the spasm commenced in the muscles of the jaws. Sometimes there are general convulsive movements of the whole body; often of parts of it only. At first the face is pale, but usually, in the course of a few moments, it becomes livid, except around the mouth, which often continues pale, in strong contrast with the rest of the face. As a general rule, it may be said that the convulsive feature of the attack does not last much longer than four or five minutes, although to bystanders the time naturally seems longer. Then the person opens his eyes with a certain degree of

intelligence, or revives enough to speak ; and, as will be said, it is at this point of the attack that most must be done. Sometimes there is nothing beyond it, and the individual gets up, hurriedly puts on his hat, and walks off, apparently the least concerned of anybody about.

If this happy termination does not take place, this brief, semi-conscious interval gives way to a *heavy stupor*, varying in duration from thirty minutes to three or even six hours.

In epileptic convulsions, there is usually nothing to be done. Ignorant people on such occasions are apt, upon the general plea "if you do not know what to do, do something," to insist upon "opening the hands," as the phrase is, saying that the patient will be better as soon as he can do it. The truth is, they can not do it until the patient is better. All interference of this kind is *hurtful*, and no good can come of it. All rude efforts aggravate the trouble, perhaps, by exhausting still further the muscular strength of the patient. All that can be done is to keep the person from injuring himself or hurting others during the violent convulsive movements, by removing him to some clear space where there is nothing to strike against. Do not attempt even to hold the limbs, but loosen everything about the throat and chest.

TREATMENT.

Wait a few minutes for the convulsive movements to cease, and the semi-conscious state to appear. As said above, it will soon be seen. Then, if the person is a stranger, get his name and residence, if possible, with such other knowledge as may be useful. In the meantime, keep the crowd away. This is a very important measure of assistance in convulsions, as in every other emergency. By this is meant that people should not bend over the victim, but that a *perfectly* free space of at least two feet on each side should be kept, with none in it but the one or two immediately assisting him.

Thirty drops of the aromatic spirits of ammonia in a teaspoonful of water, may be given the patient, as it is thought by many physicians to lighten and shorten the later stupid stage. The

spasmodic condition of the muscles of the jaws can usually be overcome enough, with a little gentle dexterity, to permit it to be got into the mouth with the assistance of another spoon or a piece of smooth stick. After getting the liquid into the mouth, press down the base of the tongue, and the mixture will readily run down the throat. As much of it will necessarily be lost during the operation, double the quantity may be prepared for use. If more than the thirty drops should be given, no trouble from it need be feared.

If the name and residence have been secured, as it often can, at the interval alluded to, the friends of the person can be advised, If not, he should be taken to some place of security until consciousness returns. Persons liable to epileptic convulsions should *never* be permitted to go from the house without a strip containing the name, residence and disease, attached inside of the coat, where it will at once be seen upon unbuttoning the coat over the chest. A reference on it to a memorandum in some pocket containing a suggestion as to the duration of the attack, useful remedy, if any, in assisting restoration, would often materially add to the comfort and advantage of the afflicted person. Other convulsions are apoplectic. These are not common, in comparison with others. As a rule, little can be done by bystanders, further than loosening everything about the neck. This should be done in all convulsions. The convulsions known as hysterical are usually found in the young women who are not very strong. Until assistance comes, act as directed in epileptic convulsions. The distinction between them can not be expressed, to a useful extent, to unprofessional persons. The foregoing management or treatment of epileptoid convulsions is calculated to be only applicable while the fit exists or lasts. But the writer has had very great success in curing this dreadful disease in a number of cases, while he has likewise failed to permanently benefit others. Yet he wishes to put himself on record as saying that the complaint is not so hopelessly incurable, but that all so afflicted should avail themselves of efforts to obtain judicious treatment at the hands of skilled physicians, as a great many become permanently relieved. Indeed where the cause can be discovered and removed a cure is

sure to follow. The bromides of potassium, ammonium, sodium, and lithium, together with sulphate of strychnia, cannabis indica, atropia, and picrotoxin are among the valuable remedies in this disease. The writer further solicits this class of patients, and will promptly answer all communications on this subject.

HEMORRHOIDS OR PILES.

There are few maladies more common than this, and few which are more annoying. Piles consist of tumors formed within the rectum and about the anus, by dilation of the hemorrhoidal veins and thickening of their walls. It is literally a blood flow, and is very common, generally affecting persons of indolent habits who sit a great deal, especially on soft warm seats or cushions; resulting often from costiveness, sometimes aggravated by looseness, straining too much at stool, or remaining too long at stool, pregnancy, or whatever else may cause congestion, or too much blood flowing into the small blood vessels on the inner side of the lower end of the rectum, causing the sides of these little blood vessels to distend or bulge out, as the blood is more and more crowded or wedged in, making little knobs, sometimes inside, sometimes outside, called internal and external piles; when these little knobs burst, they are called bleeding piles; if they do not, "blind piles," these latter are the most painful, for the bleeding ones relieve themselves. After stooling, the finger ends should be placed on the parts, and pushed upwards as the patient rises, so as not to have the pile caught on the outside of the purse-string-like apparatus, of the parts, for then it will get larger and more painful as more blood accumulates in it, while none can return in consequence of the constriction.

Whatever tends to favor an undue accumulation of blood in the hemorrhoidal veins predisposes to piles. For this reason, the affection is frequently a result of diseases of the heart and liver, which cause an obstruction in the circulation of the blood through the portal vein. Pressure from tumors in the abdomen, or an enlarged or misplaced uterus, is not unfrequently a cause of the disease by keeping the hemorrhoidal veins over-distended.

TREATMENT.

All cases of piles are not amenable to the same form of treatment, for various unhealthy conditions of the system are often concerned in their production and perpetuation, which must, of necessity, be remedied by appropriate treatment, before a cure of the piles can be expected. It is therefore, apparent that the avoidance of causes, which are apt to produce this trouble is of paramount importance. In conducting the treatment of a case of piles, that surgeon or physician will succeed best who looks upon the disease, not as a local affection, requiring merely external treatment, for it should be viewed as a symptom, but rather an effect of some remote obstruction and disease of some internal organ, like the liver or the circulation in general, the removal of which will usually alone be sufficient to accomplish its cure, without the necessity of local interference. When habitual constipation is the cause, medicines which correct that disorder as recommended in the article on that affection, will generally suffice to cure this trouble.

The following prescription is also an excellent remedy in all such cases, viz. :

R

Fluid Extract Cascara Sagrada,	two ounces.
Comp. Tincture of Gentian,	two ounces.

Dose.—A teaspoonful or less before meals to regulate the bowels.

When the hemmorrhoidal tumor or tumors are so situated that they can be removed with the knife or scissors, that is the best and quickest way to get relief. Ointments made with the extracts of stramonium, belladonna or opium in vaseline, and mixed with astringents like powdered galls, etc., especially when used in bleeding piles, are very soothing and beneficial. The parts should also be regularly sponged with cold water, to which carbolic acid may be added, morning and evening. Where the parts discharge, itch, or become irritated, there is nothing so palliating as the benzoated oxide of zinc ointment, to which a few drops of carbolic acid may

beneficially be incorporated, and applied three times a day. This ointment can be procured at any drug store. It is also the very best application for chafing, which is so frequent and distressing during hot weather, in those who are obliged to walk a great deal, particularly stout people.

SCIATICA, ITS CAUSE AND TREATMENT.

This is a disease characterized by severe pain, of a neuralgic nature, running along the course of the sciatic nerve. It is in most instances due to a neuritis (inflammation) of the nerves or of its cords of origin, but it may be only a *functional disorder* of the nerve and its branches. It occurs most frequently in men; rheumatism is present in many cases. Exposure to cold, particularly after heavy work, or a severe wetting, is a common cause of this complaint. Pain is the most constant and troublesome symptom, which as a rule, sets in gradually, and for a time may be slight and confined to the back of the thigh or upper leg. At the beginning, there is often fever or heat. Soon the pain becomes more intense, and, instead of being limited to the upper portion of the nerve, extends down the thigh, reaching to the foot, and darting over the entire distribution of the nerve. The patient can often point out the most sensitive spots, and on pressure these are excruciatingly painful. The pain is described as gnawing or burning, and is usually constant, sometimes in paroxysms, and frequently worse at night. In long continued cases there is wasting of the muscles. Its duration and course are extremely variable. It is often an obstinate affection, lasting for months.

TREATMENT.

When rheumatism is the cause, the salicylate of soda, together with other anti-rheumatic remedies, as suggested in another part of this work, should be employed. If there is a syphilitic taint, the iodide of potassium must be given. Antipyrine, antifebrin and quinine have been highly extolled in this disease. Prof. Weir Mitchell, of Philadelphia, very highly recommends, rest in bed

with fixation of the limb, by means of a long splint, like in fractures, as a most valuable method of treatment. Prof. Pepper has relieved, and in some instances completely cured, obstinate and protracted cases which resisted all other treatment. Local applications of warmth; a liniment of tincture aconite, chloroform and tincture opium are highly beneficial. Deep injections of morphine, into the nerves gives great relief, and is sometimes *curable*, as experienced by the writer. But morphine is a dangerous remedy in sciatica in one respect. The disease is often so protracted, so liable to relapse, and the patient's *morale* so undermined by constant worry and sleepless nights, that the danger of contracting the morphine habit is indeed great; and as simply distilled water, injected in the same manner, will very often relieve the pain equally as readily, the morphine should be employed with the greatest circumspection.

DIABETES AND THE PROPER DIET FOR THE DIABETIC.

The term diabetes means simply an increased flow of urine (diuresis). There are two forms of this disease, diabetes insipidus—where the quality of urine passed is large, sometimes enormously so, of a pale limpid appearance, like pure water, of a low specific gravity, but containing neither sugar nor any abnormal constituent. In this form, the health is seldom notably disordered. The appetite and digestion may be unimpaired, the functions generally are well performed, and the body does not waste. The condition may occur in early life or become developed at any age. It may occur and last but a while or continue for an indefinite period or during life. It does not tend to lead to any disease, is not serious, aside from the annoyance and debility which it occasions.

DIABETES MELLITUS.

The other form of the affection, which is also characterized by an excessive amount of urine, of a *high* specific gravity and the presence of grape sugar or glucose; hence the term mellitus, which signifies honey or sugar. The disease is not of frequent

occurrence, yet it is not so rare but that we should not learn to thoroughly understand how to treat it when it becomes necessary. Sugar in the urine, may occur as a symptom in various conditions, where it is usually not abundant and the urine containing it for a short period only. Even when the affection exists permanently, it is merely a symptom and does not constitute the affection, and with our present knowledge, the true seat and nature of the disease are not known.

Symptoms.—Large increase of urine, is usually the first sign which awakens suspicion of the existence of the disease. The urine is generally clear, as well as pale and is deficient in color in proportion to the amount of sugar it contains. The presence of sugar is perceptible to the taste and attracts flies and bees if emitted on the ground. The increase in the quantity of urine is generally very great, and sometimes enormous. It may amount to thirty pints, or even more, in the 24 hours. Exceptionally the quantity of the urine is not increased, although abounding in sugar. It is accompanied by voracious appetite, great thirst, and progressive emaciation and enfeeblement. Pulmonary tuberculosis is apt to develop during its course.

TREATMENT.

The essential treatment of diabetes is dietetic. The object is the exclusion, as far as possible, of sugar and starch from the diet. Frequently all evidence of the disease disappears under strict dietetic treatment, and the patient is apparently in perfect health. The bill of fare for diabetes is very extensive. All varieties of shell-fish are allowable. Soups without flour, fish, poultry and game. Salads made of lettuce, celery, cucumbers, water cress, dandelion, young onions, and cabbage. In the fruit line, sour apples, lemons, sour oranges, strawberries, and currents. Eggs, cheese, butter, buttermilk, cream, milk in moderation, unsweetened jellies and all nuts may also be eaten. Of drinks, coffee, tea, and cocoa without sugar, whiskey, brandy, gin, and claret are permissible. Glycerine may be used, in place of sugar in coffee and tea. The interdicted kinds of food are, sugar,

syrups of all kinds, and honey, wheat and rye flour and corn meal, arrowroot, sago, tapioca, oatmeal, barley, potatoes, beets, parsnips, rhubarb, carrots, peas and beans, chestnuts, sweet potatoes, sweet fruits of any kind, cider, chocolate, malt liquors, all the sweet wines, sweetened spirits and liquors. In ignorance of the pathology of diabetes, we have no rational indications for drugs. Opium or codeine valerian, the alkalies, cod liver oil, arsenic and iodide of potassium, are among the great number of remedies recommended.

Tonics like iron and small doses of strichnine should be given when anæmia and want of appetite call for this class of medicines. Hygienic observances are of the greatest importance in this affection.

DYSENTERY AND TREATMENT.

This is an inflammatory disease of the large intestine, characterized by frequent passages of blood and mucus, with rectal tenesmus (straining) and pain. The cæcum, colon and rectum are the parts most involved. People of all ages are liable to this disease, but the majority of patients are adults and under thirty. It is most apt to prevail during the months of July, August, September and October. The most frequent cause of dysentery, is sudden change from warm to cold, which checks the perspiration, and causes a determination of blood from the surface to the internal organs. The sudden exposure to cold when the body is heated, is a great danger to which *children* are especially liable, on account of the easy disturbance of the circulatory system in themselves, unless incessantly watched—hence the frequent bowel complaints in children.

Fecal accumulations as well as worms have been known to produce severe dysentery in children accompanied by the characteristic straining at stool and the muco-bloody passages—ceasing as soon as the offending substances were expelled. The use of unripe or stale fruit and the accumulating of their seeds in the bowels may all be sufficient cause to produce this affection.

TREATMENT.

If there is any reason to suspect the presence of any irritating substance in the intestinal canal, it is very advisable to commence treatment by the use of some simple evacuant, like castor oil. This applies to children and grown persons alike. After this, our main reliance, so far as internal medication is concerned, must be on opiates, or opiates with diaphoretics (medicines producing perspiration). One of the foremost remedies of this class is Dover's powder, which may safely be given to a child five years old, in doses of three grains every two or three hours; to adults, in six to eight grain doses. The occasional administration of a laxative is of the greatest value in this affection and should not be neglected; they are especially indicated if the stools are entirely or mainly consisting of blood and mucus.

The dose should be merely sufficient to produce a fecal evacuation, but repeated as required, daily or less frequently. The laxative commonly preferred is Rochelle salts or castor oil. The physician may advantageously prescribe an opiate (like paregoric) mixture, containing sufficient of the laxative (especially if castor oil be chosen), to have the effect desired. After the active inflammatory stage has passed, if there is still looseness of the bowels, it can readily be controlled by the use of astringents (like catechu kino, tannin, krameria, etc.) combined with opiates, prepared chalk or sub nitrate of bismuth. When the stomach is irritable, or when tannic acid and like unpleasant medicines are desired to be given, it is often best to administer the same per rectum, in the form of injections or suppositories, especially in children. Applications of sinapisms (mustard plasters) followed by warm applications to the abdomen, are very beneficial, particularly in children. Tincture of camphor will often produce sufficient counter-irritation without the use of mustard. If, in children, convulsions threaten, a mustard foot bath repeated occasionally will usually tranquilize the nervous system and avert the danger.

The diet must be bland and unirritating. In the first stages, barley water, or arrow root, boiled in water and similar drinks should constitute the main diet. When the active inflammation

has lessened or abated, or at any period of the disease, if there are signs of prostration, more nourishing food should be given, such as milk, pigeon broth, etc. Alcoholic stimulants are required in all protracted cases where symptoms of exhaustion exist or threaten.

DIARRHŒA IN GROWN PEOPLE.—TREATMENT.

The term diarrhœa is used to denote a condition characterized by loose and frequent evacuations of the bowels. It may be due to irritant substances, as undigested food, overpurging from cathartic drugs, special kinds of drinking water, bacteria, etc. Diarrhœa is also a symptom of inflammation of the large and small intestines, and of certain structural lesions, as in typhoid fever and tuberculosis. I shall limit my remarks, in this article, to diarrhœa as a functional affection, that is, as not dependent on inflammation, or any appreciable lesion or structure. As a functional affection, it may be either transient or chronic. A diarrhœa is said to be simple or fecal, when the passages consist of feces not changed in character, but simply morbidly soft or liquid. Bilious when from their yellow or green color, bile is present or supposed to be present in larger quantity than usual. Diarrhœa is serous or watery, when there is an abundant discharge of liquid, and dysenteric or mucous, when slime is present in the dejections. The passages are called *crapulous* when they contain undigested food; this form of diarrhœa, is met especially in children. We also have *fatty diarrhœa*, where free fat or oil, is found in the evacuations. Diarrhœa is most apt to occur during the summer season. This may be, explained in part, by the larger proportion of fruit and vegetables eaten and by the effect of heat in weakening the digestion.

TREATMENT.

Removal of the cause of irritation, as undigested food by castor oil, a mild purgative in fact, is generally prescribed with advantage in diarrhœa, as retained or hardened feces are likewise often the cause of the affection. If, after the bowels have been freely evacuated, either of their own accord, or by a laxative, the

diarrhœa, pain, or uneasiness continue, the same call for a mild anodyne (a medicine to relieve pain) for example, a teaspoonful or two of paregoric, in chalk mixture, a grain of opium, a sixth or a quarter of a grain of morphine in mint water, or six grains of Dover's powder, or thirty drops of laudanum together with astringents like tincture of catechu, krameria, etc. Whatever remedy chosen must be repeated after several hours, if necessary. Intestinal antiseptics to prevent putrifaction or fermentative changes, like salol, very small doses of carbolic acid, salicylic acid and bismuth are invaluable. The diet for a day or two should be very simple and restricted. Chronic diarrhœa is best treated, by pernitrate of iron, large doses of sub-nitrate of bismuth and pepsin, in conjunction with regulation of diet and all measures to improve digestion.

BRIGHT'S DISEASE.

Bright's disease (so called after Dr. Richard Bright, of London, who was the first, in 1827, to write about this affection), is a name applied to any disease of the kidneys with albuminuria (albumen in the urine) and general dropsey. Bright's disease is by medical writers regarded as a nephritis, (an inflammation of the kidneys). This inflammation always affects both kidneys, but one organ may be more affected than the other. Bright's disease is divided into two forms—an acute and chronic. The diagnosis of this disease is readily made by any ordinary physician, by the chemical examination of the urine, which always contains albumen in considerable, and frequently in great abundance. The tests for albumen are made by either adding nitric acid to the suspected urine by heating the same in a test tube, over a spirit lamp, which if albumen be present, will at once show a white color or precipitate, corresponding in thickness according to the quantity of albumen present. This disease may occur at any period of life, (young infants or children are not exempt from it, but in this class of patients, it occurs in the acute form only and is a sequel of scarlet fever, which is readily amenable to judicious treatment). The description of this article relates to the chronic form of the affection only. The disease occurs much oftener in males than in

females. It sometimes occurs during the development of consumption, and the albuminuria and dropsey in pregnancy depend, in a certain proportion of cases, on this affection. It occurs especially in persons addicted to drinking; but in these cases it may be difficult to say how much of the causative agency is to be attributed directly to the action of alcohol, and how much to the exposure incidental to intemperance. It is observed frequently to become developed after lying on the ground in a state of intoxication. Medicines like copaiba, turpentine and spanish-flies, if taken in excessive doses, or too long continued, as in the treatment of gonorrhœa, may cause the affection. The immediate danger in cases of this complaint is from uræmia (blood poisoning by absorption of urea, the poisonous element in the urine), which may cause coma and convulsions. Dropsical effusions into the pleural cavities may also take place to such an extent as to destroy life.

TREATMENT.

There are three leading objects of treatment: 1. To lessen the intensity of the renal inflammation, promote resolution, and restore the secretory function of the kidneys. 2. To lessen or remove the dropsical effusion and, 3. Elimination of urea through the skin or bowels if uræmia exists or be threatened.

Carefulness as regards diet, exercise, and exposure to cold, is important. Tonic remedies, especially preparations of iron, are generally needed. The form of iron, known as Basham's mixture is particularly well suited in this class of cases.

With reference to the first object, rest and warmth of the surface are indicated, which necessitates the patient to remain in bed. Allow water and other bland liquids as freely as the thirst dictates—with nourishing but unstimulating diet. Cupping—perfectly dry—over the loins or kidneys is the best method of revulsion or counter-irritation. Warm fomentation over the regions of the kidneys are likewise useful. With reference to the dropsey, either saline cathartics or the more active hydragogues (purgatives producing watery stools) are required in proportion to the amount and situation of the dropsical condition or effusion.

For these ends eleterium, gamboge, the active principal of may apple (podophilin), and jalap with cream of tartar are efficient remedies. Diuretics are not to be relied on; the kidneys will not be likely to respond to them, besides they are hurtful on account of their inflamed condition. But digitalis with the saline class of diuretics are often useful.

APHASIA, ITS DEFINITION AND CAUSE.

The term aphasia, is derived from two Greek words, (*a* and *phasis*, signifying a "saying") and consists in an impairment in the expressing of ideas, either by speech or by writing. The motor or ataxic form is due to lesion of the third (left) frontal convolution of the brain, while the sensory form is due to lesion of the first and second temporo-sphenoidal convolutions. This affection follows attacks of cerebral apoplexy, caused by plugging of a vessel, especially an artery, in the brain, called cerebral embolism. Such a plug is named an "embolon" or "embolus," and is brought from some point remote from the site of obstruction. It may be single or multiple, and consist of fibrin, fat, masses of bacteria, or air bubbles. This obstruction is called thrombosis, and the thrombus or obstruction produces pressure on the nerve centres, thereby producing paralysis.

Aphasia is to be distinguished from *aphonia*, a term denoting inability to speak in consequence of either laryngeal disease or paralysis of the laryngeal muscles.

Aphonia is the loss of the *voice*, and aphasia is the loss of *speech*; the former relating exclusively to the vocal organs, the latter proceeding from a cerebral affection. In *aphasia* the patient is mute from an inability to use words expressive of the ideas which are in the mind. The loss of speech may be complete or partial; the patient in some instances is absolutely dumb. Sometimes a single word can be spoken such as "yes" or "no," and this is uttered whenever the attempt to speak is made. In other instances the command of words is larger, but limited to a few words, and in different cases, we find every degree of incompleteness in the aphasic condition. The difficulty of speech may consist in

which wrong words are substituted for the right ones, or the words be arranged so as to form meaningless combinations, which is distinguished as *paraphasia*. In ataxic aphasia the mind may recognize the proper signification of words, the difficulty consisting in the inability to give *expression* to the words. As the name implies this inability proceeds from a want of power to co-ordinate the muscles concerned in speech. In amnesic aphasia there is inability to recollect words as the symbols of ideas—language is lost to the memory. In purely ataxic aphasia, the ability to use language correctly in writing is not lost, and may not be impaired, provided, the intellectual faculties are intact. In this form, the ability to read is retained, and language spoken by others is comprehended or understood. So far as can be judged, in some cases of ataxic aphasia absolute mutism is not incompatible with undiminished intelligence. Frequently, however, the cerebral affection which causes the aphasia, impairs, in a greater or less degree, the mental faculties. In amnesic aphasia, on the other hand, the loss of speech is accompanied by inability to use written language (which is called *agraphia*). The person may understand both spoken and written language. Inability in these respects involves, in a greater or less degree, mental imbecility (a weakness of the mind bordering on idiocy). In ataxic or the motory form, the ability to interpret signs or gestures is preserved. If this be lost in either forms of aphasia, there is imbecility in a greater or less degree. Patients affected with ataxic aphasia, even when it is evident that the intelligence is well retained, cannot repeat words after dictation. Patients with purely amnesic or sensory aphasia are able to do this, provided the intelligence is not too much impaired. These two forms of aphasia may be associated; the patient can then express ideas neither by spoken nor written language, and is unable to repeat words after dictation. Prof. Flint, says: "In cases of either ataxic or amnesic aphasia, it is not an easy problem to determine whether or not, or to what extent, the mental powers are impaired. This problem is sometimes presented to physicians in medico-legal cases. The instances must be rare in which persistent aphasia, associated with hemiplegia, (paralysis of one side of the body), does not involve more or less

impairment of mind. Ataxic aphasia, as an isolated affection, may exist with the intellect apparently unaffected. It is doubtful if this can be said of amnesic aphasia. Words are the instruments of thought as well as the expression of ideas, and it is difficult to believe that the inability to recollect words is possible without deterioration of the reasoning faculties. The inability to understand spoken or written language and signs, is proof of impaired intellect."

TREATMENT.

In the young, associated with hemiplegia, from whatever cause, it is usually transitory, and they quickly learn to talk, perhaps by education of the centres of the opposite side of the brain, but in adults the condition is much less hopeful, especially, in cases of complete motor aphasia with right hemiplegia. Though now and then recovery is rapid, in others partial recovery occurs and the patient is able to talk, but misplaces words. If motor aphasia has persisted for three or more months without improvement, the condition generally remains hopeless and the patient may remain speechless—though understand everything that is said. The education of an aphasic person demands the greatest patience and we must begin as with a child—commence with detached letters, afterwards words with one syllable etc. When the right side is paralyzed, the patient may be taught to write with the left hand, and have a medium of communication.

NOTE.—Amnesic pertains to loss of memory, particularly an impairment in the expression of ideas, due to a failure to remember the right words.

PRACTICAL OBSERVATIONS ON MALARIA AS CAUSED BY CONTAMINATED WATER AND INTERMITTENT FEVER OR FEVER AND AGUE.

Intermittent fever, popularly known, as "fever and ague," "chill fever," "the shakes," and, by names expressive of the locality in which it is produced, as, in Louisiana "swamp fever," "Panama fever," etc., is too well known by the general reader to

need a lengthy definition. I shall, therefore, mainly consider, its cause, prevention and treatment. There are three simple types of intermittent fever, namely, the quotidian, where the paroxysms take place daily, as the name implies ; the tertian, where the paroxysms recur on the third day, or at about forty-eight hours, and the quartan type, or where the paroxysms take place on the fourth day, the interval being about seventy-two hours. The latter form is comparatively rare. Attacks may occur at any hour of the day, but rarely take place during the night. In a large majority of cases the paroxysms occur before noon. During the intermission, there is much difference, in different cases as regards freedom from ailments. In some cases the patient complains only of a certain amount of weakness ; the appetite and digestion are good, and there is no perceptible disorder of any of the functions, in others marked prostration, loss of appetite, etc., exist. The disease shows no preference for either sex and it affects all ages. Facts abundantly prove that it is not communicable from one person to another. The malarial fevers being purely miasmatic.

Causation.—The doctrine that, intermittent and remittent fevers, are produced by a special morbid agent, commonly known as *malaria*, is no longer doubted. But a great diversity of opinion seems to exist or spring up as to the mode of its introduction into the system ; formerly, it was generally held, that this germ, or *miasm*, producing malarial poisoning, floated in the atmosphere and was thus inhaled into the system, and that this was the chief if not the only source of its introduction. In lieu of this proof, is cited the fact that persons sleeping in an upper story escape this *marsh miasm*, while those sleeping on a level with the ground become afflicted. The same theory teaches that it is more abundant in the night-air than during the day—that the malarial contamination may often be avoided by avoiding exposure in the evening, night or early morning. But recent investigations prove conclusively, that all malarial diseases have their source in contaminated drinking water. Dr. W. H. Daly, an eminent physician, of Pittsburg, Pa., in an able article read before the American Climatological Association, in Washington, D. C., in May, 1894, says upon this subject, which he undoubtedly thoroughly investigated :

“The writer has for the past twenty or more years spent probably an average of two months annually in the recreative sports of the field, forest, and stream. The largest proportion of these holiday jaunts have been passed in the lowlands, or in the swamps of the lake-sides or sea-side, in the pursuit of wild-fowl shooting. Many, if not most of these regions were, and are generally admitted to be, intensely malarial in character, notably the vast Kankakee swamps in Indiana.

“In former years, before the writer had noticed certain conditions, and used certain precautions, he was subject to malarial disease of a continuous or recurrent type, clearly traceable to his having drunk the shallow well and swamp water of these regions.

“Observations and studies on the subject, and investigations made in various districts from Manitoba to Louisiana, and all along the southern coast of the Atlantic Ocean, and of Cuba, Yucatan, and other districts of Mexico, lead the writer to the conclusions that so-called malarial disease is not easily, if at all, contracted by inhaling so-called malaria or bad air, of the low, swampy, or new lands, but it is distinctly, if not almost exclusively, due to drinking the water that has come into contact with, and become infected with the malarial germs or infusoria that exist in the earth and waters of the swamp and lowlands. This germ does not ordinarily, if at all, float in the air during the day, nor does it find easily a vehicle in the fog or vapors of the night.

“Indeed it is difficult to understand how one is to avoid the night-air, even if it is conceded to be deleterious—a conclusion I much doubt. Does any other air exist at night? Is it possible to breath any other? Is there any habitation sufficiently sealed against the outside air to make the breathing of outside night-air impossible?

“I understand the United States Navy Department years ago made, and they may still, for aught I know, make, a point of advising the anchorage of war vessels in streams and waters of malarial districts so as to avoid the air currents from the swamps near by, lest the air, laden with poison, should be inhaled by the officers and sailors.

“I will venture to say that no air from the foulest swamp can be more deadly than the foul air that is produced by the emanations.

from the air passages, and from effete matter from human beings crowded into the hold of a ship. That sort of air is indeed malarial, while the swamp air I believe to be comparatively safe and wholesome, but of the swamp water beware for any other purpose than ablution.

“I am fully aware that in taking the ground I here occupy I may be considered to be too radical, and that my position may be regarded as untenable. If so, I can only answer that every observing medical man must and is bound to tell honestly and fairly what he has gathered from his own experience, observation, and studies, and it must be considered that my observations have been prolonged, extensive, and fairly intelligent, and made not, so to speak, second-hand, but personally and upon the ground in districts distinctly malarial, and that during the years that I and others had been careful to avoid the mists and fogs of the malarial regions, as well as the out door night air, but all the while using the surface swamp, or shallow well waters for drinking, I, as well as others of my friends, suffered from malaria, so called; but later on, and during the past twelve years, while abstaining from drinking the surface or well water, and with the utmost freedom of exposure to the out door night air, fogs, rain, and mists at all times, night and day, we have enjoyed complete immunity.

“Whoever has shot wild fowl knows full well that the best opportunities come to a sportsman amid storm and rain, with the early mists of the morning, and when the marshes are redolent with the vapors of the evening, just at nightfall, when the wild fowl are flying to and fro, seeking their favorite haunts in the marshes to sleep.

“Then there is the journey of miles homeward to the clubhouse, farm house, or camp, in the small ducking-boat, that brings one to the fireside possibly not earlier than eight to ten o'clock at night, so that exposure is positive, and close to the marsh and water, as one is sitting in a small boat.

“I mention the foregoing as relevant, since medical men are still the readers and learners from the classic text books of Watson, Tanner, and Niemeyer, not to speak of many others.

“Tanner says, in his most attractive style: ‘It is worth remembering that malarial districts are most dangerous at night,

and that this poison lies low, or, as Dr. Watson says, "loves the ground." And Dr. MacCullach says: "It is a common remark in many parts of Italy, that as long as laborers are in an erect position they incur little danger, but that the fever attacks those that sit on the ground."'

"All the older and most of the new text books lay stress upon the strictly malarial feature of the disease, that is to say, that the poison is breathed into the system. Some of the newer writers, it is true, give some prominence to the source of contagion, from drinking the infected land or swamp-water, but still adhere to the belief in the medium of the air as a chief or equal source of infection. This latter belief is a gross fallacy in my opinion, and will not stand the test of practical proof, if the factor of drinking land and swamp-water is eliminated.

"In recent years, through the digging up and renewing of the aqueducts, which for centuries had supplied the city of Rome with drinking water, it was discovered that many of her wealthy and leading citizens had, during the period of her grandeur and decadence, actually been guilty of clandestinely draining the sewage from their country and suburban villas into the very aqueducts that supplied the city and their fellow citizens with drinking water.

"Can there be a greater example of public degradation, and can any evidence be stronger than this, that a larger part of the Roman fever, which is unmistakably malarial, has been due to contaminated drinking-water rather than the infected air?

"As I say, during these earlier years that I and others of my sportsmen friends drank freely from the running brooks and streams and from the swamps, we also endured for the sake of the sport of shooting wild fowl, an occasional shake with the ague and many of the other disagreeable symptoms that, while they do not amount to an actual chill, make one feel about as wretched as it is possible for one to feel and go about. And I and the others were all the time taking heavy doses of quinine as an antidote. In fact, no trip was ever taken to the swamp for wild fowl without plenty of quinine and a little whiskey.

"But during the past twelve years, and since we have avoided drinking the surface-water, and, when it was possible, even the

deeper well-water of the region except after boiling the same, I have been quite free, as have been others of my friends whom I have advised.

“If one cannot get boiled water any other way, it is well enough to take the water that has been boiled by a brewery, *viz*: in form of beer.

“It is now generally conceded that the malarial germ is the cause of the fever. Lemaire, Klebs, Crudeli, and others have isolated certain forms of bacillus, which they believe to be specific of malaria. Laveran first, and Richard and Marchiafava, and Cella, also found in the blood three forms of protozoa, one of which particularly produced intermittent fever by inoculation. The germ is infusorial, and exists in the water and soil.

“E. Maurel, in the *Semaine Medicale*, (Annual Universal Medical Sciences, 1888,) announced to the French Association for the Advancement of Science, that it is always easy to distinguish a healthy from a malarial soil.

“The water from the malarious districts always contains numerous micro organisms, some of which are possibly Laveran’s corpuscles in an early stage of their development, but it is not yet certain that the germ has been isolated outside of the human body.

“In regard to the real value of Laveran’s corpuscles in the production of malaria, he himself believes them to be indirectly concerned in the production of the infection, although their relation to it has not absolutely demonstrated. It is probable, according to Rougette, (*L’Union Médicale*) that the malarial microbe gives rise to symptomatic fever by reason of its activity in producing leucomaines. During the access of fever the microbe is eliminated by natural emunctories.

“The liver is a destroyer of leucomaines; (Annual Universal Medical Sciences, 1888) but, as my paper is upon the question of the manner in which the so-called malarial infection enters the human body, whether through the air-passages, or the digestive tract by means of drinking-water, I must not wander into other phases of the subject. I am firmly convinced that farther investigation will as surely lead us to the knowledge that so-called malaria is, strictly speaking, a water-borne disease, as it is that

we are now being lead to the right conclusion, by Ernest Hart and others, that cholera is also a water-borne disease; and it is our duty to educate the profession, and the public, especially those who make up the population of the malarial districts, that it is the water they drink, and not the air they breath, that decides whether they will suffer from malaria or not.

“ It is a great pleasure to have come into contact with many of the intelligent medical men, who practise in the southern end of malarial districts of our country, whose beliefs are far in advance of the vague and obsolete views of many of our writers of text-books. If there were as many such men in our profession as there ought to be, the use of quinine as an antiperiodic would soon become unnecessary. In fact I regard the malarial type of fever, in the United States at least, as clearly preventable as any other disease that we have to deal with, and by the simple method of drinking only carefully collected uncontaminated rain-water, which, as a simple precaution, might be boiled.

“ I have observed on some of the plantations of the South, that among certain cattle and horses that have been shipped from the North for breeding purposes, many of those that were turned out on the marshes to drink the surface-water sooner or later sickened and died with what was known as climatic fever (malarial); but the animals that were kept stabled, and drank only the deep well and cistern-water, would thrive as well as they did in the North.

“ In the *British Medical Journal* of October 21, 1893, Oswald Baker, surgeon of the British Army, writes that on the steamer *Scindia*, which sailed from Bombay for Marseilles on August 5, 1893, there occurred several cases of acute malarial fever that were, from the account given by Mr. Baker, clearly traceable to the drinking-water, which was taken on the ship at Bombay, and not in any way due to the air that the patients breathed.

“ It is a pleasure to note in the medical journals—the great educators of those who write text-books—the accumulating testimony of careful observers, who agree with my observations and experience herein set forth.

“ In the *Medical Record* of January 28, 1893, E. D. S. writes that five out of a family of six, adults and children, had suffered

pretty continuously for the past six years with malaria (so diagnosed by the best physicians), at times quite seriously ill, with temperature 104° F. Quinine was administered. Seven months ago a Pasteur filter was introduced, and quickly every symptom of malaria disappeared. Another family had the same experience.

“Dr. L. L. Von Wedekind, U. S. Navy, in the *Medical Record* of February 11, 1893, gives a history of some cases which indicate that to drinking the land-water was traceable the cause of malarial fever on the coast of southwestern Africa. The doctor says ‘that land-water is considered as a cause, and a prominently exciting cause, with naval medical officers,’ as is proven by the orders issued by medical officers of the different ships serving on the coast, prohibiting the use of native water for drinking purposes.

“In the region about Elizabeth, N. J., some years ago, in conversation with some well educated medical men—among others Drs. W. J. Lumsden and Oscar McMullen, who were and are careful observers, I learned that their outbreaks of malarial fever (fresh cases) usually occurred in the early autumn, following a period of rainfall and a few subsequent warm days, but new cases only occurring among those who drank the land-water.

“The inhabitants who used the storm-water, carefully stored in clean cisterns, especially above ground, uncontaminated with the soil water are immune from the attacks, and while the disease during the past two years has presented some varying features to these gentlemen, such as catarrhal jaundice, of an endemic character, traceable to malarial influence, as well as other forms, there does not appear to be anything to controvert the evidence that these patients took their malaria in water, either as drink, or upon the leaves of the turnip-top, greens, kale, spinnach, cabbage, or other vegetables that grow close to the ground and have surface water on their leaves. These vegetables are abundant and usual in the culinary supplies of the region.

“One may ask, why do not New Yorkers and Philadelphians also get malaria from the same surface-water, dew, and moisture upon the leaves of these small vegetables, shipped from this productive region to those cities? The answer might well be that they do unless the leaves are well washed in uncontaminated running-water before being presented for use as table food.

“ Dr. R. E. Boyken, of Smithfield, Isle of Wight County, Va., informed me that thirty years ago he had studied this subject, and had since induced as many of his patients and fellow-citizens of his county as possible to adopt the cistern water as a beverage, and all those families who fell in with and followed out his views are of healthy and ruddy complexion and free from malarial disease while those who continued to drink the land-water are subject to attacks of malarial fever.

“ That so-called malaria is an autochthonous disease, finding its way into the human body through the food channels, there can be little or no doubt in the mind of the original and unfettered observers.

“ It is true we have not found what we know to be the malarial germ and isolated it outside of the human body, and we are not sure either that we have found the typhoid germ in the soil or in the suspected drinking water; yet we are quite sure that we trace typhoid origin through these sources.

“ Let us eliminate the atmospheric factor in malaria by noting in each case if the soil, surface, or shallow well-water has been drunk by the patient. If this has been done, the case is obviously one that has been exposed to the infection in its most potent form. There can be no scientific question more strictly in line, and touching the true object, of this learned Association than this, and it is to be hoped that in the future papers will be invited from those who have had an opportunity of observing data bearing upon this, the chief phrase of this unsettled question.

“ We do not merely want a rehash of old dogmas from the text-books, or echoes from time-worn unfounded opinions, garbled by one so-called authority from an antecedent authority, but let us have the fresh and unbiased observations and views of the thousands of intelligent medical men who have the opportunity in their own neighborhood to make original observations and report them.

“ Dr. W. J. Lumsden, of Elizabeth, N. J., recently wrote me that his case-books show that fully ninety-eight per cent. of patients who have suffered from malaria for the past ten years got their supply of drinking-water from the dug wells of the region. Those inhabitants who used the water from driven-wells, thirty or more

feet deep, have had an unmistakable improvement in health. A driven-well is made by driving an iron pipe with a perforated inlet down deep into the earth, through strata of clay or marl, which seals off the surface land-water. So it will be understood that the water from the driven-well is pretty securely sealed against surface-water by its small calibre and tight fit in the soil through which it penetrates.

“ Since writing this article I observe the growth of medical opinion is gaining strength along the lines and in the direction of the contention of this paper. The *Journal of the American Medical Association*, of May 12, 1894, contains the following :

“ ‘ Dr. Richard H. Lewis, of the North Carolina State Board of Health, has prepared a circular letter for the medical men of his State, regarding the influence of well-water in the production of fever and ague. He gives a homely illustration in the recited history of two families who resided as next-door neighbors in one of the eastern towns of his State. The two families each contained two adults—father and mother—and seven children. The two families were friendly, but their homes were sufficiently separated to require independent water-supplies for each. One family drank from what was regarded with pride as “ the best well in town,” the other of rain water caught in wooden tanks. The members of the first family were constantly sick with malarial disease of one kind or another. Those of the second never had even a chill.’

“ It is the wish to build up a line of testimony of like character, if such can be obtained through the medical men of North Carolina, To this end he has written the appended letter, giving an invitation to a co-operative study of the well-water origin of malarial diseases.

“ ‘ DEAR DOCTOR : The evidence that malarial diseases are introduced into the system in many, if not most, instances through the medium of drinking-water, is to my mind conclusive. The water containing the germs, or plasmodia, is surface or superficial soil-water. Those living in malarial districts who confine themselves to water from cisterns or wells driven or bored beneath the stratum of marl or impervious clay—in other words, beyond the water which soaks down from the surface—are to a large extent

free from attacks. If the people of our eastern counties could be generally convinced of this fact, and thereby induced to act upon it, the health conditions of that really fine section would be revolutionized for the better. To bring this about is the object of the Board of Health. In order to do this, facts must be presented to them in the concrete—not by illustrations from 'Asia and Spasia and t'other side o' Hillsborough,' so to speak, but by instances from among their own neighbors. I write to ask you if you know any facts bearing on this subject, and if so, that you will write them to me in detail at your earliest convenience. Give me the name and post-office of the head of the family having the experience. If not personally familiar with the facts, send me the name and address, that I may write to him direct.'—*New York Medical Record*.

TREATMENT.

In the salts of quinine, medicine possesses *specifics* for the cure of the malarial type of fevers, as well as for all affections caused by malarial poisoning, if any remedies can be entitled to this appellation. Quinine or sulphate of cinchonidia will promptly check the recurrence of the paroxysms of intermittent fever, provided the preparation of the drug employed is properly administered and is not spurious or adulterated. The disease should always be arrested as speedily as possible, as its morbid effects are always less in proportion as it is quickly arrested, and the liability to relapses thereby very greatly diminished. Formerly it was customary to prepare the system for quinine or other special remedies, by mercurial cathartics, emetics, and even blood-letting sometimes—measures which were all injurious to the system, aside from the delay in arresting the disease which they caused. There is no need of preparatory treatment. Begin with abortive remedies at once!

With reference to the time of giving the anti-periodic remedy, my experience has led me to the conclusion, in fact thoroughly convinced me, that it proves most effective when given as near to the paroxysm which has passed as possible. As regards doses,

and successive doses, the most effective plan is to give the remedy so as to produce evidence of cinchonism (buzzing of the ears, etc.,) as speedily as possible. This object may be accomplished by giving a single dose, that is in quantity of twenty grains, or by somewhat smaller and repeated doses. The latter method is by far the better way of successfully checking the paroxysms of fever and ague, and the reader is respectfully referred to the article on *quinine in another chapter* of this book, for formula and further advice as to treatment of this and other affections due to malarial poisoning. Some persons do not bear such heroic doses, of the salts of quinine, to whom the remedy must be administered in smaller doses. Chinconism is the test in this respect. The co-existence of any other affection does not contra-indicate the plan of treatment described here. In young children, owing to the difficulty of giving this class of medicines by the mouth, the remedy may be given per enema (injection into the rectum). In such cases it may also effectively be employed by inunction, an ointment containing the quinine being rubbed into the arm-pits, groin and over the abdomen.

The hypodermic injection may be resorted to in cases of intermittent fever, when the remedy is not retained by either the stomach or rectum. This mode of administration has the advantage of economy as regards the quantity of quinine required, as the method has been fully tested and observations proven that the effect is three or four times greater when thus administered than when taken into the stomach. Besides the effect is also more quickly induced. But the writer would caution against the employment of the ordinary salts of quinine for this purpose, as there is considerable risk of abscesses forming at the places where the injections are given. The remedies for hypodermic or subcutaneous injection, for this purpose must be especially prepared—be absolutely pure and perfectly soluble, in an equal weight of water.

There are several succedania (substitutes) of the preparations of cinchona which are capable of arresting the disease ; like salicin, sulphate of bebeerine (this one eminently so), ferrocyanide of iron, chloride of sodium, piperine, arsenic (which ranks next to quinine in value, the form Fowler's solution being generally employed),

muriate of ammonia, pilocarpin, strychnia and others. During the hot stages relief is obtained by sponging the body with cold or warm water, together with ice-water drunk freely. During the sweating stage, comfort is procured by wiping the body with warm flannels, changing the linen and bedclothes. After perusing the foregoing, the reader need hardly be told that the best preventive against malaria is carefulness in drinking-water.

LA GRIPPE.—ORIGIN, HISTORY AND TREATMENT.

This disease which is quite well understood by the general reader, at this time, has received many names, the most common being influenza and la grippe. The term influenza was applied to the affection by the Italians, in the seventeenth century, upon the supposition that it owed its origin to some occult influence of the stars. La grippe is said to come from the Polish *Crypka*, signifying "hoarse," others recognize it in the French word, "gripper" which means "to seize." The Germans call it "blitz katarrh." The disease is sometimes called "Russian influenza," because it is supposed to have had its origin in Siberia. It usually occurs as an epidemic and travels very rapidly over the globe. The disease probably prevailed extensively from the earliest ages, but accurate descriptions of the disease date back only to the beginning of the sixteenth century. Since then there have been frequent and extensive epidemics, many of which have spread rapidly over both continents, and have appeared almost simultaneously in widely separated countries. Repeated outbreaks, of this affection, have occurred in America, since at least 1875. The last great epidemic, which is no doubt remembered by many readers of this article, occurred in 1889, and seems to have started or broken out at Bokhora, Asia, in the month of May, 1889. It had established itself in St. Petersburg, in October of the same year, and was recognized in Paris, as early as November. England was invaded about the same time, if not a little earlier. It spread very rapidly to this continent; cases began to be of very frequent occurrence, and the epidemic reached its height at almost the same date in

January and February of 1890, in widely separated localities throughout the entire United States.

It smouldered away during the ensuing summer, only to awaken or break out with renewed activity in the late autumn of that year, prevailing extensively again in the following spring; and for a third time, but in milder and less prolonged form in the winter of 1891-92, etc., the disease is beyond question infectious and highly contagious, and spreads by atmospheric influences as well as by contact—that is from person to person. It attacks persons of all ages and conditions. Young children are, however, less frequently and less seriously attacked than older persons. On the other hand, the aged and infirm, and persons of nervous temperament and in those whose vitality is depressed by over-work and anxiety, are especially liable to the disease. The bacillus of influenza seems to act specifically upon the mucous membrane of the respiratory tract with which it comes in contact; and is received into the system by means of the inspired air. Humidity of the atmosphere seems to favor greatly the development of the affection.

The temperature noticed in the various localities where this pandemic fever prevailed ranged from 100° to 105° Fahr., and usually remained at this height for two or three days, and subsided rapidly, the fibrile movement being symptomatic. La grippe is also analogous to the epizoötic that frequently prevails among domestic animals—especially the equine family. The exact nature of these infectious diseases is however, not established, with accuracy; nor is the evidence clear as to this transmission to the human subject, nor as to the acquisition by animals of influenza from man.

Symptoms.—So varied are the signs in different cases of influenza that it is difficult to present a brief sketch of its symptoms. In all epidemics there are many cases of a type so mild that the patients pay little or no attention to the attack, regarding it as an ordinary catarrhal cold, and continue their usual occupations. The main features in the majority of cases, are chills, which are quickly followed by heat or fever, sneezing and coughing, together with headache and pains in the back. There is depression of spirits with pain in the flesh and a general weakness, corresponding with

the severity of the attack. Sore throat and pain in the chest are seldom absent in the catarrhal or pulmonary form. Perhaps 40 per cent. of these catarrhal cases of la grippe have a typical pneumonia; severe cough, with shortness and tightness of breathing, is often present; soreness about the eyes; "snuffles" and all the symptoms of a "bad cold" is the usual order of things. The pulse ranges from 90 to 120, usually full in volume, although in many cases it gets small and weak. The pain in the chest is sometimes very severe. The throat may become very sore, swollen and covered with exudations. The bronchitis is frequently grave. Ear-ache is often a prominent symptom. In the gastric (where the stomach is affected) form of the disease, there is usually nausea and vomiting—sometimes very persistent. Loss of appetite prevails in nearly every case. Among the numerous affections which follow la grippe; may be mentioned, alopecia (falling of the hair), erysipelas, and consumption. The mental derangements, insanity, etc., usually pass away after the patient is convalescent. Epidemic influenza, if not properly managed, is indeed more liable to serious complications than nearly any other disease we know of. Catarrhal affections of the nose and throat not infrequently follow this affection.

TREATMENT.

This disease by proper treatment at the beginning of an attack can be so modified as to be almost aborted. But if not properly managed, influenza is particularly liable to grave complications. Even in mild cases the tendency is towards prostration, and frequently the nervous shock is such as to materially debilitate the patient. Quinine is undoubtedly, the best germ destroyer we have for the microbes of influenza. The following formula is of tested value in these cases; the relief obtained from the administration of antikamnia where the headache is severe is often wonderful:

R	Quinine Sulphate,	$\frac{1}{2}$ drachm.
	Antikamnia,	$\frac{1}{2}$ drachm.
	Salol,	$\frac{1}{2}$ drachm.

Mix. Make fifteen powders, one every two hours. (For a grown person.)

Antifebrine, antipyrine, or acetanilid, are all invaluable agents in this affection, but should be prescribed by direction of a physician. A ten grain dose of antikamnia, (alone) will often act very happily in these cases, especially where there is much pain. Quinine, as an abortive remedy, should be given in five to ten grain doses, three or four times a day. Mustard pediluvia (foot baths) are of great advantage, and a plaster of mustard and lard, one part of the former to two parts of the latter, applied directly to the chest, is a splendid mild counter-irritant. Expectorants or cough medicines are often needed, and the following mixture which contains antikamnia also, is well suited in these cases :

R

Antikamnia,	one drachm.
Syrup Senega,	one ounce.
Wine of Ipecac,	four drachms.
Syrup Tolu,	nineteen drachms.

Dose.—A teaspoonful every two hours.

Quinine in tonic doses is greatly indicated in most cases ; say in pills of two grains every two hours, during the course of the disease. Where there is much pain in the back, chest and limbs, Dover's powder, in five grain doses, repeated every few hours, affords much relief. Headache may be palliated by cold applications to the head, and small doses of phenacetin, in place of antikamnia. Where the nose symptoms are very prominent or troublesome, nothing affords quicker or better relief than a 4 per cent. solution of cocaine, introduced high up in the nasal passages. Great care in clothing in the avoidance of damp air or draughts and of any sudden check of perspiration, should be strictly observed. Confinement to the house, or rest in bed, in severe cases, must be insisted on from the onset, until fully recovered. During convalescence all details of personal hygiene, with nutritious diet, etc., is of especial importance. A course of the vegetable and iron tonics is indeed indicated in most cases after influenza, as this disease tends greatly to leave the system in a weak and debilitated condition and thus favorable for the development of tuberculosis, etc.

SCARLET FEVER.—ITS ORIGIN, HISTORY, PREVENTION AND TREATMENT.

The term scarlatina is derived from the Latin, and the affection is so called on account of the scarlet or beautiful bright red eruption which accompanies it.

The disease is of three varieties—scarlatina simplex, in which the throat symptoms are slight or entirely absent—scarlatina anginosa, in which the throat symptoms, are very severe and the characteristic eruption often slight—malignant scarlatina in which the symptoms such as fever, delirium, restlessness, sleeplessness, etc., are very severe, the prostration very great, and the complications especially as regards the throat, very marked.

Scarlet fever appeared in England, in the year A. D., 1661, but from whence it was originally imported is unknown.

Medical literature states that it was afterwards recognized in Scotland, in 1716; Germany and Italy, in 1717; Denmark, in 1740; North America, at Kingston and Boston, in 1735; New York and Philadelphia, in 1746; Ohio and Kentucky, in 1791; Toronto, in 1843; New Orleans, in 1847, and in California, in 1851.

The disease according to medical writers is rare in Asia and Africa and is said to be entirely unknown in Japan.

This affection does not seem to have been of such virulent and malignant a nature as now, when it first made its appearance in England and on the continent, for Sydenham, the celebrated English physician, who was the first to recognize and describe it (in 1661) as we now know it, considered the disease "only an ailment" writing "we can hardly call it more." The affection was in its earliest times very frequently confounded with measles, as much and more so perhaps as it is confounded in our time with diphtheria.

The disease often prevails epidemically and epidemics are known to differ greatly in severity and fatality, some being extremely mild while others are unusually severe and the number of deaths fearfully great. Soil, season, or climate offers no explanation of this peculiarity; and we remain as yet, entirely ignorant of the cause or conditions which determine these remarkable diver-

sities of phenomena and danger. Thus it may be said that while small-pox has been shorn of its terrors (through vaccination) scarlet fever takes rank as the most dreaded of all the infections which now prevail. It is indeed a lamentable fact that the laity understand comparatively little about the contagiousness or the sources of propagation of such highly infectious and contagious diseases like scarlet fever, diphtheria and small-pox, and the means whereby their spread or communicability may be avoided or prevented. For if the proper precautions were taken or observed these scourges could be exterminated or completely eradicated from our midst, and it is indeed timely that the people in general should become better educated and more fully acquainted on this all-important subject. The writer is of the opinion that the proper place to begin this education is in the school-room, and would suggest that our text books used in our public schools, be profuse with this class of literature instead of the stories and fiction which they now so largely contain. The susceptibility to scarlatina is much less than to measles and small-pox, one member of a large family being often alone attacked. Hence a great number of people escape it throughout life. Again individual families, (not unlike as in pulmonary consumption) seem predisposed to, or exempt from the disease. But it is difficult, with our present knowledge, to find any explanation for this individual or family immunity or susceptibility.

It is principally a disease of childhood, as statistics show conclusively that sixty per cent. of cases occur before the age of five, and ninety per cent. under ten years. Attacks later in life are rare, and are usually mild. One attack confers immunity, as a rule, for life. Scarlatina is undoubtedly contagious, and very highly infectious. Every case owes its origin to a previous case. The disease never originates *de novo* or anew, and is disseminated and conveyed by contact direct or indirect, eminently by clothing, washing, bedding, furniture, letters, books (as from a library or school), toys, etc. Convalescents from the disease carry it to school, church, theatre, train, etc., and in this way disseminate it throughout a community. The cause of the disease is said to be disseminated from the skin as well as the various secretions,

and during all stages of it. But it is perhaps most dangerous during the desquamative stage, as the many thousand particles of dead skin, perhaps floating in the atmosphere are thus inhaled in the lungs and in this way propagate the disease readily. Daily ablutions or washing the child with warm water, sufficiently disinfected or carbolized will lessen the danger from this source of infection very materially and should be much encouraged. The disease may likewise be conveyed by third persons, carrying the poison in their hands, hair or clothing, who may themselves remain exempt. If the public better understood the circumstances governing these ills, there is no doubt their conduct would frequently be very different in these matters. Physicians too should often exercise more care than they generally do in regard to the spread of this fearful scourge. In the light of existing knowledge no doctor or surgeon in attendance upon a case of any infectious disease, like scarlet fever or diphtheria, should attend another case, or enter another house without previous thorough disinfection. The disease may lurk in houses for a great length of time, and the health authorities should always see, after a case or cases of this nature have existed in a home, that all the clothing, bedding and the whole house be thoroughly disinfected after the disease is ended. A not infrequent source of infection is milk, from an infected dairy, or otherwise. The only safeguard against these germs is boiling the milk before use.

TREATMENT.

The treatment of scarlet fever is mostly directed according to symptoms, as medical science has not as yet discovered a specific, like we possess in quinine in the treatment of the malarial type of fevers. The sick-room requires constant good ventilation from the outside air. The temperature of the bed-room should be maintained at from 65° to 70° F. as registered by a thermometer, at the head of the bed. The little patient should wear a long muslin night-dress, without other clothing. The bed-covering must be as light as is consistent with comfort. Milk and meat soups form the best diet. Water, carbonated water, seltzer, apollinaris, lemonade, toast-water or barley-water, should be given freely to relieve the

thirst and to keep the kidneys and skin active, in order that these channels may eliminate as much of the scarlatinous poison as possible.

Drink should be offered once an hour, in high fever, during the day. Rigid cleanliness is to be maintained by frequent sponging and bathing of the surface.

Daily luke-warm baths (full length) give the greatest comfort throughout the disease. Temperature above 103° F. is best combated with cold sponging, cold packs or cold baths, but as popular opinion is as yet opposed to such procedures, and under such circumstances, I would recommend tepid baths, to which a little vinegar or baking-soda may advantageously be added. Where these ablutions or baths cannot be employed, resort may be had to the antipyretics, antipyrine, antifebrine, phenacetin, etc., in proper doses for children, as suggested in the article on bodily temperature. Phenacetin is the least injurious and should always be preferred for children. Burning and itching of the skin are best allayed by the application, after warm baths, of vaseline, goose-grease or fresh lard, to which a few drops of carbolic acid may advantageously be mixed. Quiet, peaceful, and more or less restorative sleep is wont to occur after a bath and inunction in this way.

Nervous distress, restlessness, convulsions, insomnia, headache, etc., are best combated by bromide of potassium or sodium in doses of from five to ten grains (according to the age of the child) largely diluted and sweetened. The writer has seen very happy results from the use of hydrate of chloral, in five grain doses in obstinate cases of this kind in children. Indeed no other single remedy gives the comforts of chloral in repeated doses of two to three grains. Small doses of Dover's powder are sometimes a good substitute. Ice-bags should be applied to the head for brain symptoms. The vomiting, which is sometimes intense, is best relieved by doses of two to five grains of chloral, in a little peppermint-water. This remedy may be administered per rectum in double doses; throat symptoms call for inhalations of steam, best from steam vaporizer, either simple or medicated, with boric acid, three drachms to four ounces of water. A little carbolic acid and glycerine are equally suitable. Ear-ache is best relieved by

atropia and sweet almond oil, as suggested in another part of this manual. Applications of hot-cloths wrung out of boiling water, applied about the throat and covered by thick dry cloths, relieve the pain and swelling of the neck or throat.

Gargles, containing cholrate of potash, or one of the astringent preparations of iron, preferably the tincture chloride with glycerine, where the child is old enough to use a gargle satisfactorily, is likely to do good. The writer prefers an application of nitrate of silver, twenty grains to the ounce of water, brushed very gently to the inflamed surfaces, once or twice a day. A slice of pork, cut as thin as possible, and stitched on muslin or flannel (the pork to reach from ear to ear) tied or pinned around the neck, is a valuable application. It is well to sprinkle salt, or powdered camphor, upon the pork in order to secure a speedier action. It is always proper to begin treatment by giving a gentle cathartic. Indeed, simple, or mild cases of scarlet fever, and without any complication, seldom require much treatment; a simple diaphoretic mixture, like the following, after a cathartic, is all that may be required :

R

Sweet Spirits Nitre,	three drachms.
Syrup Ipecac,	three drachms.
Simple Syrup,	one ounce.
Aconite Tincture,	three drops.

Mix. Dose.—One teaspoonful every two hours to a child two to five years old.

Medicines to promote the action of the skin and facilitate the elimination of the scarlatinous poison, cannot be too highly recommended in all cases of scarlatina. Such agents likewise aid in lessening the fever and tend to promote the eruption. In the very severe or malignant cases of scarlatina, measures which reduce the vital powers cannot fail to be injurious. In most of these cases there are evidences of prostration from the start, such as drowsiness, great restlessness, delirium, feeble pulse, as shown by the dusky or bluish color of the surface. These symptoms call for stimulants. In the ordinary as well as severe forms of this disease, carbonate of ammonia, given with a tonic, is one of the very best remedies,

and is indeed recommended by the best authorities. It may safely be prescribed at the first visit of the physician, and given at proper intervals throughout the disease. It is regarded as a main remedy by a great many judicious and skilled physicians. The following is an eligible formula for this class of remedies:

R

Carbonate of Ammonia,	one drachm.
Citrate of Iron and Ammonia,	one drachm.
Simple Syrup,	three ounces.

Mix.—For a child of five years, in doses of a teaspoonful every two or three hours.

The preparations of cinchona are also valuable tonics.

The following prescription has very salutary effects on the throat, aside from the valuable tonic and other properties, *viz.*:

R

Tincture Chloride of Iron,	two drachms.
Powdered Chlorate of Potash,	two drachms.
Glycerine,	one ounce.
Simple Syrup,	two ounces.

Mix and order a teaspoonful, every two hours, for a child three years old.

DROPSY FOLLOWING SCARLET FEVER.

The nephritic affection (the inflammatory condition of the kidneys) which is so common a sequel or result of scarlet fever, is frequently more dangerous than the scarlet fever itself. Anasarca or dropsy is most apt to occur in the second or third week after the date of convalescence, that is, during the stages of desquamation (scaling or separation of the cuticle). It follows mild cases of scarlet fever as well, if not more frequently, than the severer forms of the disease. It is an important question whether this sequel proceeds exclusively or chiefly from an agency pertaining intrinsically to scarlatina, or whether it depends on extrinsic causes, such as the action of cold. I have known it to occur in cases in which the utmost care had been taken in regard

to exposure to cold. But it is very probable that exposure is a frequent cause of this trouble. It should always be remembered that children are especially liable to be readily affected by changes of temperature and currents of air, and it is highly important that the greatest care in reference to the hygienic management should be exercised in this respect in the three or four weeks succeeding scarlet fever. A thorough knowledge, too, and clear appreciation, on the part of the physician, of the proper therapeutic indications is highly necessary, since by judicious treatment many, if not *all* recover, whose lives would inevitably be sacrificed by improper measures. As the kidneys are, in these cases, highly congested or inflamed, diuretics which stimulate these organs should not ordinarily be given, at least not until this swollen condition has, in a measure, abated. As the eliminating functions of the skin, and of the intestinal mucous surface are, to a considerable extent vicarious (acting for the other) with that of the kidneys, diaphoretics and purgative remedies are required. Indeed, nephritis calls imperatively for hot-baths, under which all the symptoms of this complication, including vomiting, are wont to speedily subside. The bath must be hot (100° to 110° F.); the patient immersed full length, then rolled in a woolen blanket and covered in bed, and be allowed to sweat for an hour. If free sweating is not produced, it may be promoted by placing against the patient a number of bottles of hot water, surrounded by a wet woolen blanket. The steam arising from this produces prompt perspiration. This treatment may be repeated each day, if the patient requires it, while at the same time diaphoretics or cathartics are given.

The diaphoretic which is most serviceable in this affection, is the acetate of potash. It should be given dissolved in water or syrup, in doses of about one grain for each year of the child's age; sweet spirits of ether may be combined with it and increases its effects very much. The following formula is also a good one for this purpose :

R

Sweet Spirits of Nitre,	one ounce.
Spiritus Mindereri,	four ounces.

Mix. A teaspoonful for a child of five years every two hours.

The external measures of heat described above materially aid these diaphoretics. If perspiration is not produced, the action of the medicines is probably on the kidneys, and if diuresis (profuse flow of urine) do not result, there is danger that the inflammatory condition of these organs may be increased. In such cases these medicines should be omitted and cathartic medicines given in place, or where there is too much exhaustion, it is sometimes better to trust to the local or external measures—hot-baths—suggested. In robust children suffering from anasarca or dropsy, or even from scarlatinous uræmia, and serous effusions, into the chest, abdomen, etc., no medicines afford so much relief as cathartics of a hydrogogue (producing watery stools) nature. A mixture of jalap and cream of tartar (the compound jalap powder), which can be obtained at any reliable drug store, fully meets the indication. In children somewhat reduced, medicines of this nature are even often required. In older patients, powdered gamboge may be added. Cathartics are more certain in their effects than either diaphoretics or diuretics, and, therefore, they should be given in urgent cases in which it is necessary to remove the urea or water as speedily as possible. After the use of cathartic or laxative agents for four or five days, the kidneys, being then less congested, often begin to excrete more urine, when diuretics may be given likewise. The laxative should, however, be continued, in doses sufficiently large, two or three times a day, to produce watery passages, for several weeks. In most cases of this renal trouble, there is anæmia, and iron in the form of tincture chloride in small doses should not be neglected; it may, in fact, advantageously be given at all times. Uræmia, together with convulsions, sometimes suddenly follows scarlet fever, even without an outward appearance of dropsy. Whenever a child, during convalescence from this disease, complains of violent headache, vomiting, or is seized with convulsions, there is cause for the suspicion of uræmic poisoning, and the course of treatment here suggested is not only highly proper, but constitutes the sheet-anchor of success.

TYPHOID FEVER AND ITS PREVENTION.

This fever, which prevails very extensively in this country, has been known under various names; such as *common continued*

fever, abdominal typhus, enteric fever, autumnal fever, pythogenic fever, etc. It is customary to apply the name typhoid to a condition or state incidental to many diseases, and hence more or less confusion arises. But of the numerous names which have been proposed, no one has as yet been generally adopted, and the disease will probably continue to be called *typhoid fever*. The typical typhoid condition of typhoid fever, and other diseases, exists when the patient is profoundly prostrated; characterized by great muscular feebleness, a tendency to slip down in bed, twitching of the muscles of the fore-arms, sordes on the teeth, dry, brown tongue, feeble and rapid pulse, low-muttering delirium, with picking at the bed-clothes, and involuntary passage of feces and urine (perhaps retention of the latter). Typhoid fever has its habitat in the intestines, and is due, according to most writers, to the bacillus typhosus, and characterized by inflammatory enlargement or ulceration of Peyer's patches and enlargement of the mesenteric glands and spleen. It is communicated by the stools, which become contagious after stagnation and decomposition, the contagion being conveyed through the emanations from sewers and through contaminated water, food or milk. The period of *incubation* is from one to four weeks, after which the disease sets in, usually insiduously, with malaise, headache and back-ache, epistaxis (bleeding from the nose), cough, ilio-cæcal tenderness, and fever which rises higher and higher each day, remitting always in the afternoon. In the beginning of the second week the fever reaches its *acme*, and an *eruption* appears, consisting of lenticular rose-colored papules, which appear on the abdomen and flanks in successive crops, each crop persisting for two or three days. The ilio-cæcal tenderness becomes marked, and is accompanied with gurgling; diarrhœa now sets in, the evacuations resembling pea-soup in color and consistence; there is tympanites, and the spleen becomes distinctly enlarged. This stage of acme lasts a week or so and is followed by a *stage of gradual decline* of the temperature and other symptoms, and very gradual convalescence, which is often interrupted by one or more relapses. In the stage of acme the patient frequently passes into the *typhoid state*, (quoted above). Death may occur from exhaustion or from

the continued high temperature, or from the *complications*, the most important of which are intestinal hemorrhage, intestinal perforation with peritonitis (often occurring during convalescence) pneumonia, pleurisy and bronchitis. Other complications of typhoid fever are: bed-sores, mumps and permanent mental disorder.

TREATMENT.

Careful nursing, with milk or other unirritating liquid diet. Cold baths, antipyretic doses of quinine, phenacetin, antifebrine, etc., to reduce abnormal temperature. Vegetable astringents, bismuth, opium and sulphuric acid for diarrhoea. Turpentine internally for intestinal hemorrhage. Opium in perforation. Prevention of bed-sores by avoidance of pressure and attention to the state of the skin—particularly lotions of alcohol. Stimulants, as alcoholics, etc., where signs of prostration develop.

PROPHYLAXIS, OR THE PREVENTION OF TYPHOID FEVER.

“Typhoid fever is certainly to a large extent a preventable disease.”—PEPPER. Since it is produced by a specific germ, it is self-evident that the paramount object of prevention is to destroy the germ wherever known to exist, and at the same time use every precaution against its admission into the system. As the faecal discharges in each case of this disease contain the virus in great abundance, they must be thoroughly disinfected and properly disposed of. The disinfected discharges should be emptied into privies or water-closets, or buried in the earth at points remote from the supply of drinking-water, and never emptied on the ground. Like attention to the disinfection of the body-linen of the sick, the bed-clothing, the mattresses and to the furniture of the sick-room is highly important.

While thus endeavoring to prevent extension of the disease, it is very essential to make careful search for the source of infection in each individual case. It is very frequently traceable to defective drainage, sewerage, water-supply or milk-supply. During the

existence of an attack of typhoid fever it is desirable that both the water and milk should be boiled before being used. The source of this disease has recently been traced to the eating of raw oysters. It were well if hygiene were taught more thoroughly in our public schools, especially as bearing on infectious diseases.

TYPHUS FEVER.

This fever, which has been known from the earliest antiquity, has received a great variety of names. As its development is favored by overcrowding, bad ventilation, filth and starvation, and because of its frequent occurrence in prisons, camps, ships, etc., it has been called jail fever, camp fever, ship fever, famine fever, etc. The name typhus, introduced by Sauvages in 1759, is now generally adopted by writers of all countries. The term is derived from the Greek, *stuphos*, signifying stupor, relating to a feature which is usually more or less prominent in this disease. It has many features in common with typhoid fever. But the identity or non-identity of the two affections has been, heretofore, a mooted question. They present points of contrast amply sufficient to show that they are distinct diseases. In typhus, the abdominal lesions which are so characteristic of typhoid fever, are wanting; the Peyerian and solitary glands are unaffected. The mesenteric glands are likewise not infiltrated as in typhoid fever, but are generally healthy. The stage of incubation or access is also shorter than in typhoid fever, and cases of an abrupt invasion are not as rare. The symptoms during the development of these two fevers are essentially the same, with this important difference that in typhus the diarrhœa, flatulency, gurgling, etc., are wanting. It is highly *contagious*, the contagium or virus being contained in the breath or exhalations from the skin. In the United States it occurs in epidemics. One attack secures immunity from another. The *invasion* is preceded by malaise for a day or two and is ushered in by slight chills, headache, muscular pains and weakness, a dusky flushing of the skin, accelerated pulse, and rapid elevation of temperature, the latter reaching its maximum (103° to 106°) between the third and fifth day. At this level it stays for two or

three days, showing but slight diurnal variation, and then falls somewhat until the period of crisis. Meanwhile the other symptoms increase, the prostration finally becoming very great, the pulse more frequent and feeble, the tongue dry and black, the teeth covered with sordes, and the muscles tremulous; the patient passes from a state of active delirium into a state of low muttering delirium or into almost complete coma; the feces are passed involuntarily, and there is retention of urine. The breath and sweat exhale an offensive, mouse-like odor. The *mortality* of typhus fever is from 10 to 15 per cent., being very slight in children and increasing steadily with the age. The mortality does not differ with that of typhoid fever, being about the same.

TREATMENT.

Thorough ventilation, secured by keeping the patient in a large, airy room; liquid diet, especially milk and animal broths; mild febrifuge and diuretic remedies; opiates or the bromides for delirium; ammonia and alcoholic stimulants when necessary, constitute the main features of treatment.

EPIDEMIC OR ASIATIC CHOLERA.

This is an infectious epidemic disease, which has received a great variety of names, such as Indian, Oriental, Epidemic, Malignant, Asiatic cholera, Pestilential cholera, etc., etc. The disease appears to be indigenous (native) in India and to have existed there for a long period. In other parts of the world it has made visitations solely as an epidemic. In 1817 it commenced its march from Bengal, and during the following fifteen years it traversed nearly the whole of the known world. It prevailed in different parts of this country for the first time in 1832, and again in 1834. It began its march a second time in India in 1847, and again traversed the greater portion of the globe, prevailing in the United States in 1849, 1850, 1851, and 1852. Commencing again its march over the globe in 1864, it reached this country in 1866, and during that and the following year it prevailed in many of

the large towns in the different states in the Union. The last epidemic in this country prevailed in 1873.

In the great majority of cases the disease is preceded by simple diarrhœa, the passages being greater or less in number, copious, and painless. This preliminary diarrhœa in different cases varies from a few hours to several days, and with this diarrhœa in some cases occasional vomiting occurs. If diarrhœa has existed, the discharges are suddenly copiously increased, the disease being characterized by profuse fluid evacuations, resembling rice-water, from the bowels, suppression of urine, cramps and profound prostration.

The contagion of cholera is contained in the evacuations from the bowels. These being most virulent after standing from one to three days, and is usually conveyed in drinking-water. It consists probably of the *comma-bacillus*, a curved spirillum found in the stools.

Cholera is a very fatal disease, death occurring from exhaustion, or with coma and convulsions, or from pulmonary congestion. The average mortality in hospitals varies from one-half to one-third. But in private practice, especially among the better classes of society, the mortality is considerably less. In individual cases the prognosis is widely different according to the period of the disease at which the patient is first seen. "If seen immediately after the attack, before serious blood-lesions have occurred, the prospect of an arrest of the disease is good. But if the disease has advanced to the stage of collapse, the prognosis is always exceedingly unfavorable." —(FLINT).

TREATMENT.

There are but few articles in the entire materia medica which have not at one time or other been tried for the cure of this dread disease, many of them highly injurious, but it would be unprofitable to devote space to their enumeration. The remedy on which most dependence is to be placed is opium, in tincture or morphine (the latter hypodermatically); the same may be given in very large doses in this affection. This remedy will be indicated by

the pain, diarrhœa, etc. The premonitory diarrhœa calls for astringents, bismuth, chalk, opiates, etc. Regulated diet, rest, with perhaps a tonic remedy, for the convalescent.

PREVENTION OF CHOLERA.

The prevention of this disease claims considerable attention and we should always give it precedence over the therapeutical management, in view of its greater relative importance. Prevention is always better than cure, and indeed in no respect more so than with reference to this disease. In addition to the removal, as far as possible, of all the auxiliary causes of disease which contribute to render the special cause of cholera efficient, the prevention involves prompt attention to the diarrhœa which, in the great majority of cases, precedes the attack. This premonitory diarrhœa is readily amenable to simple measures of treatment, and, if faithfully carried out, cholera would in a great measure be preventable. Another mode of escaping the disease is to remove without range of its prevalence. All persons not compelled to remain by necessity, or by a sense of duty, should go beyond the limits of the epidemic. These remarks relate to the prevention of cases of cholera during an epidemic. To prevent an epidemic is an object of still much greater importance. This is to be done by thorough measures in regard to the removal of all filth, attention to sewers, cesspools and privies, also to wells or other sources of water-supply, together with proper protection against causes of disease from waste-pipes in houses; providing against overcrowding in tenements, etc., and by rigid quarantine regulations. Ships, merchandise, baggage, etc., coming by sea or land from a cholera region, should be effectually disinfected. When the introduction of the disease is not prevented, the prevention of its diffusion is practicable and may be "stamped out" by the prompt and effective disinfection of every house in which it occurs.

DELIRIUM TREMENS OR ALCOHOLISM.

This affection is due to the prolonged use of alcoholic beverages. It is also called *mania a potu*. The effects of *alcoholism* enters

directly into the causation of many affections, such as cirrhosis of the liver, fatty liver, gastritis, epilepsy, muscular tremor, pyrosis (heart-burn), and many dyspeptic disorders. The excessive use of liquor likewise favors the production of nearly all diseases by lessening the power of resisting their causes, and at the same time contributes to their fatality by impairing the ability to bear and overcome them. For the intoxicating effects of alcohol, the reader is respectfully referred to another chapter of this book. The habitual use of liquor produces a deleterious influence on the whole economy, it weakens and impairs the appetite, enfeebles the entire muscular system, and the generative function is decayed. The blood is impoverished, nutrition is imperfect and disordered, as shown by flabbiness of the skin and muscles, emaciation, or an abnormal accumulation of fat. The deleterious influence on the mental is not less marked than on the physical powers. The perceptions are blunted, the intellectual and moral faculties progressively deteriorate, until, at length, the confirmed drunkard, miserably cachectic in body, and imbruted in mind, has but one object in life, namely, to gratify the morbid craving for liquor.

Delirium tremens is an affection incidental to alcoholism, but it has been a mooted question whether the affection is due to the sudden *withdrawal* of alcoholic stimulants, or whether it is a direct *consequence* of the prolonged action of alcohol on the brain.

Symptoms.—The most prominent and distressing symptoms attending this affection are hallucinations of sight and hearing—the objects perceived being usually of a repulsive character. He sees imaginary objects, such as mice, dogs, cats, lice, snakes and ferocious animals. He hears noises of animals or men, answers imaginary questions, and is apt to fancy the presence of persons who are bent on insulting or ridiculing him, or from whom he apprehends fearful personal violence, etc., etc. In this terrible state of mind patients not infrequently leap from windows and are dashed to pieces—believing that they are followed by wild beasts or by men who seek their lives. Other symptoms attending the outset of this trouble are complete loss of appetite, insomnia, muscular tremor, more especially tremulousness of the tongue, and notable depression of the mind. This state is known among

drunkards as "the horrors." The insomnia, or wakefulness, is indeed the main feature of this dreadful malady. The insomnia continues, the sufferer gets no sleep for two, three or four days and sometimes for a still longer period after the development of the affection. The delirium is always much worse during the night. Anorexia (loss of appetite) with constipation of the bowels, continues throughout the affection. The prognosis is generally favorable. When not associated with other affections, a fatal termination is very rare. The affection destroys life *per se*, chiefly in cases in which repeated attacks have occurred, and the constitution is broken by a long-existing alcoholic cachexia. But delirium tremens occurring after wounds, surgical operations, accidents, or when associated with other diseases, as for example, pneumonia, it adds largely to the gravity of the prognosis. It is important to bear in mind that inflammation of the brain is not involved in this affection, nor is there ground to believe that congestion is an essential element—the nature of the morbid condition, as in the other neuroses, is unknown.

TREATMENT.

The great object of treatment is to procure sleep. But in the medical treatment of delirium tremens the first indication is to remove effete materials from the system, and relieve abdominal engorgement. With this in view, it is well to give three or four grains of ipecacuanha every fifteen minutes until free vomiting is produced, even if the patient be suffering from excessive nausea and vomiting. After the emetic has acted, three grains of calomel should be administered, which is to be followed, several hours afterward, by a dose of the compound jalap powder, sufficiently large, to produce free purgation.

To quiet nervous excitement and procure sleep, we must rely on the bromides, opium or morphine, chloral hydrate, etc., etc. The combination of chloral and sulphate of morphine far exceeds in efficiency and general applicability all other hypnotics. The chloral (15 to 20 grains and morphine $\frac{1}{4}$ grain) may be given at bed-time, and repeated in half this dose at intervals of an hour,

through the night, with care not to overdo the exhibition of narcotics. Bromide of potassium, in large doses, thirty to sixty grains, repeated every hour or two, in combination with small doses of opium, hyoscyamine or cannabis indica, will frequently tranquilize the nervous system and procure sleep readily. The opiates are to be administered with circumspection in this affection. Tincture of digitalis and strychnine, especially where heart stimulants are indicated, are valuable agents in this disease. Chloroform, by inhalation, has been employed in an obstinate case, by the writer, with the happiest results. The management in other respects is highly important. Visitors, or at least curiosity seekers, are to be excluded from the sick-room. The circumstances surrounding the sufferer should, as far as possible, be regulated with a view of promoting sleep. The patient should be encouraged to take plenty of nutritious and easily digested food.

One of the most important questions to be decided in the treatment of this affection, is as to the necessity of using alcoholic drinks. In many cases it does harm, and the moral reasons against its employment are very strong, but in feeble subjects or in old drunkards the exhibition of liquor in some form or other, may be necessary to the saving of life. Proper restraint to prevent the patient injuring himself or others, must likewise be employed ; properly constructed straps, securing the patient in bed, are, in a violent case, much better than restraint by means of nurses, being more steady and certain in its action, and creating less opposition on the part of the patient. It is an important duty of the physician, after recovery from this disease, to inform the patient of its character, and to point out the inevitable consequences of the habits which have induced it. And the poor patient may thus be aided in an effort to emancipate himself from the slavery of intemperance, by remedies and hygienic measures which tend to invigorate the body, thereby strengthening the mental powers. The unhappy slaves of intemperance should be considered as suffering from *disease*, and should be treated as patients until the morbid craving is extinguished by prolonged abstinence.

Shakespeare probably had one of these unfortunate persons in mind when he wrote, "O, thou invisible spirit of wine, if thou hast no name to be called by, let me call thee *devil* !"

ERYSIPELAS AND TREATMENT.

Erysipelas may be defined as an acute, specific and contagious fever, tending usually to a typhoid type, and characterized locally by a peculiar inflammation of the skin or mucous membranes. It may attack the same person more than once. The disease is known by a variety of names, such as the rose, St. Anthony's fire, etc. It is caused by a specific microbe known as the *Streptococcus erysipelosus*, and has been known from the earliest period of medical history. Erysipelas is divided clinically into two forms: 1. Idiopathic (self-originated), or "medical" erysipelas, involving chiefly the face and head; 2. Traumatic (produced by injury), originating at the site of a wound anywhere upon the surface of the body. *Age, season of the year, climate and sex* do not especially influence the susceptibility to the disease, but occurring in the puerperal state, and in small children, it is especially virulent and dangerous. The disease is greatly favored by bad hygienic surroundings, filth and overcrowding.

There is abundant proof that erysipelas is communicable by contagion, and it is highly important that physicians or surgeons, in attendance upon cases of this kind, observe the greatest possible care in attending cases of confinement, as the disease may thus be conveyed to those in the puerperal state—and perhaps generate puerperal fever.

TREATMENT.

There is no specific remedy for erysipelas—abortive remedies, either local or constitutional, fail completely in the majority of cases, thereby illustrating the general truth or fact in therapeutics that modes of treatment, and especially of acute febrile affections, should be determined by their type, rather than by their essential nature.

In many instances it is so far local and superficial or mild that its treatment may be confided to protectives and palliatives, but in the severer forms of the disease, from whatever cause or variety, calls for a general or constitutional treatment at once

stimulant, supporting and tonic as the only one from which favorable results can be expected. An ordinary case of this affection should be treated about as follows: The inflamed part should be placed in as comfortable a position as possible, and the face, when affected, should not be exposed to a strong light; the skin should be dusted with lycopodium, or finely powdered starch, or wheat or rye flour, and covered with carded cotton; and in cases attended with much burning and tension, a smaller or larger proportion of oxide of zinc should be mixed with the flour, or the part may be kept anointed with vasaline. Vasaline is greatly superior to ointments, for, unlike them, it is not apt to become rancid. It may also serve as an excipient for oxide of zinc or lead, or extract of opium which may seem appropriate.

Sweet oil, with twenty per cent. of carbolic acid, is likewise an excellent local application. The compound solution, or the compound tincture of iodine, painted on the inflamed parts, are valuable applications to relieve the pain and swelling in some cases.

The internal medication of erysipelas may very appropriately commence with a purgative, like the epsom salts, or jalap and cream of tartar, which will tend to allay the temperature, mitigate its severity and modify its course, partly by cleansing the alimentary canal, and partly by quickening all the eliminating secretions, and very possibly by expelling in this manner a portion of the morbid poison contained in the blood. In all classes, tincture iron chloride in large doses, 20 to 30 drops, for adults, largely diluted, every few hours, is highly beneficial. Pilocarpine, belladonna and quinine, especially the latter, when a tonic is indicated, or blood-poisoning feared, are all remedies highly lauded in the affection.

SCABIES OR "ITCH."

Scabies, also called "the itch," is a contagious inflammatory disease of the skin, having its origin in an animal parasite. It is, as its name indicates, an essentially pruritic disease, and its intensity is increased and its continuance largely established by

the wounding of the skin incident to the scratching which its itching causes. It is chiefly a disease peculiar to the poor, uncleanly and filthy people, but it is not uncommon to find it in the middle, hard-working, and reasonably clean classes, and it is sometimes found in persons of the higher walks of life whose personal cleanliness is beyond question. While the affection can only originate through this parasite, known as the itch-mite, (*Acarus Scabiei*), it should however be remembered that eruptions almost, if not wholly identical, are produced by other varieties of the *sarcoptes*, derived from horses, dogs, cats, camels, sheep and rabbits. It is well therefore in trying to make out the diagnosis, or nature of a case, not to be satisfied by simply inquiring as to whether the patient has come in contact with a person so affected, or handled an animal, or been in contact with it in any way. The affection is readily curable; recent or mild cases may be cured in a week or ten days; more advanced or extensive eruptions require a somewhat longer time.

TREATMENT.

The indications for treatment, which is purely external, are to destroy the itch-mites, to cure the inflammatory changes which they may have caused, and to use ample caution that the treatment adopted does not produce irritation or be too strong. It must be borne in mind that infants, children and women, as also some men, cannot be treated as heroically, as individuals with a coarse and resistant skin. The best method of procedure in cases of itch, is as follows: Rubbing of the whole body and particularly of the parts most affected, with a thick lather of soft soap, or some other good grade of soap, for twenty minutes. By this means the mites are dislodged from the surface of the skin, the hole or burrow is rendered accessible to the parasiticide applications, and the ova or eggs may be killed. The second stage of treatment consists of a bath or thorough washing of the entire body with warm water. The third stage begins with the inunction into all parts of the body the following ointments, daily, for about a week.

R

Flower of Sulphur,	two drachms.
Subcarbonate of Potash,	one drachm.
Lard,	two ounces.

This may be used in severe cases where the skin is not fine and delicate. The following is a finer ointment :

R

Flower of Sulphur,	three drachms.
Naphthol,	three drachms.
Balsam Peru,	three drachms.
Vaseline,	four ounces.
Creasote,	twenty drops.

PEDICULOSIS OR LICE.

A number of animal parasites or epizoa affect the human skin, among these are three varieties of lice. The pediculosis capitis or lice of the head, the treatment of which varies in its simplicity according to the severity of the case. If their existence is made out before much dermal irritation has been produced, their destruction is readily accomplished by saturating the scalp with tincture of larkspur, or with the following lotions :

R

Bichloride of Mercury,	one to two grains.
Cologne water,	three drachms.
Water,	four ounces.

OR

R

Carbolic Acid,	two drachms.
Glycerine,	one ounce.
Water,	eight ounces.

These lotions should be well rubbed into the roots of the hairs and along their entire length, and thus the pediculi and ova are both destroyed. After these preparations have been on the scalp for several hours, the head should be shampooed with soap and water, when a fine-tooth comb should be used, which is a valuable adjunct to the treatment. A cure is more easily effected if the hair are cut. The following is also a sure remedy :

R

Naphthol,	two drachms.
Vasaline,	one ounce.

PEDICULOSIS PUBIS OR "CRAB LICE."

This parasite is called the "crab louse" (*pediculus pubis*). It is a very common affection, and is seen in the better classes of people, male and female, as well as in the lowest of them. It is most commonly observed in adults, and is usually conveyed in sexual contact. While its habitat or principal place of abode is in most cases upon the pubis and lower portion of the belly, the insects are often found upon the chest, in the armpits, upon and among the eyelashes and eyelids, in the beard and even upon the head. They are likewise not infrequently found, especially in hairy men, on the thighs and even on the legs. In some of these cases the lice reach these distant parts by migration, in others by transference by means of the fingers and nails.

TREATMENT.

Mercurial ointment is a remedy in high repute among the laity, high and low, and indeed well deserves its fame for the destruction of these parasites, but it is apt to cause congestion of the parts to which it is applied, and even so severe eczema, that its use should be restricted to cases of emergency.

The following lotion or wash is very efficient and pleasant, and when carefully, even though quite freely, used, productive of no bad results :

R

Bichloride of Mercury,	four grains.
Cologne Water,	two drachms.
Water,	four ounces.

Mix and apply twice a day.

I would recommend the following lotion as also beneficial and well suited in cases of females :

R

Carbolic Acid,	two drachms.
Spirits of Camphor,	one-half ounce.
Glycerine,	six drachms.
Water,	enough to make eight ounces.

Mix.

It is sometimes necessary to clip the hair close to the skin of persons thus affected.

PEDICULOSIS CORPORIS OR "BODY LICE."

This affection is caused by a parasite resembling the lice infesting the body, which enscones or shelters itself in the coarse meshes of the underclothing and in the seams thereof. It is occasionally seen meandering over the integument, but when thus sought for is rarely found. The ravages of this insect, and the consequent suffering, are caused by the insertion of its proboscis into a follicle from which it draws blood for its sustenance. Following this bite a minute quantity of blood escapes, which dries and forms a little crust at the punctured point, etc.

TREATMENT.

The first essential in treatment is to thoroughly sterilize the clothes of the patient and all his bed-linen. To this end, these fabrics must be boiled, baked or ironed, at a temperature high enough to destroy the lice and not to ruin the clothes. A mild carbolic acid lotion, or vinegar and water, may with benefit be rubbed on the skin.

DIPHThERIA—ITS CAUSE AND TREATMENT WITH ANTI-TOXINE.

This is a constitutional, febrile, highly infectious or contagious disease, characterized by the formation of yellow patches of exudation and infiltration upon and in the substance of various mucous membranes and the tissues lining raw surfaces. It is attended with enlargement of the associated lymphatic glands. It affects chiefly the mucous membranes of the pharynx, larynx and tonsils, but also attacks the nose, eyelids, vulva, etc.

Diphtheria is caused by a bacillus, which was first discovered by Klebs in 1883 and by Loeffler in 1884. From the fact that both observers deserve credit for the discovery of the germ, it is often called the "Klebs-Loeffler bacillus." There are some physicians who call every throat affection diphtheria, and in this way build up a great reputation and amass lucre. But the writer is nevertheless fully cognizant that the diagnosis of this disease is not always easily made out, and would herewith quote on the subject from the reports to the New York city health department on the use of bacteriological examinations for the diagnosis of diphtheria by Herman M. Biggs, M. D., the learned pathologist, etc., health officer of New York city, as follows :

"It is admitted by all clinicians of experience in this disease that it is often impossible, either from the clinical history or the anatomical lesions, or both, to make an accurate diagnosis of diphtheria. There are no constant differences which separate the simple non-contagious forms of inflammation from the diphtheritic and communicable types, and it is only in a rather small proportion of cases that an early and reliable diagnosis can be arrived at from any data obtainable. The records of the health department of New York city have shown this in a very striking way. In the cases of suspected diphtheria under treatment at the Willard Parker Hospital, in which the diagnosis were made by the department inspector and confirmed by the department diagnosticians before the removal of the patients to the hospital, subsequent bacteriological examinations showed that from thirty to fifty per cent. of these cases were not diphtheria, but were cases of pseudo-diphtheria, (false-diphtheria)."

The causative relation of the Klebs-Loeffler bacillus to diphtheria is no longer doubted or disputed by bacteriologists, and its great virulence is fully demonstrated, as the same has been retained after a series of twenty inoculations of the false membranes upon so many rabbits.

The human blood can be predisposed to, or against disease, as by vaccination against small-pox, by the Pasteur method against hydrophobia, and as is now being demonstrated, by the inoculation of anti-toxine or the new diphtheria serum, against the much dreaded scourge—diphtheria.

Numbers of healthy persons have been found to have diphtheria bacteria in their blood; their blood had acquired a quality which proved an antidote to the bacilli. History and experience tells us that the most dreaded of all enemies of man are the infectious diseases. But there is one consoling feature of these so much dreaded diseases, that is the immunity granted or afforded by one attack against subsequent invasions. The general reader will know this fact, in at least as far as small-pox, scarlet fever, measles, mumps, etc., are concerned—persons as a rule taking these affections but once.

However benign the disease or mild the epidemic, it leaves some mark of devastation in its path—it is precisely this condition which the injection of anti-diphtherine produces in an artificial manner, if done at the proper time, the serum or transparent portion of blood of horses or other animals, previously rendered immune by graded inoculations, being employed for the purpose.

The anti-toxine is prepared in the following way, *viz*; A horse, a healthy animal, being chosen, is inoculated with the deadly Klebs-Loeffler bacillus. The more violent, the better the results will be. The extremely poisonous cultures having been prepared and its strength fully determined, is injected into the animal which is to furnish the serum, beginning with very small doses, which are gradually increased, until the most powerful poison can be resisted by the animal. Many months are required to obtain such immunity, and the constant liability to the loss of animals from an overdose of the toxine is very great. Other animals than the horse may be utilized for the purpose, as the cow, sheep, goat, dog or guinea pig, but the horse is preferably selected as possessing more susceptibility.

As soon as the horse or animal chosen has developed a high degree of immunity, it is ready to furnish anti-toxine. The blood is obtained from the larger veins in the body, the animal having just been put under the influence of morphine or an anæsthetic. The serum is then separated from the blood and in this serum is contained the anti-toxine. Our learned scientists are constantly working to still further isolate this anti-toxine in property and to obtain it in a more concentrated form. It may be mentioned that

the strength of the test poison is first thoroughly tested by its action upon guinea pigs, through a tedious process of inoculations, before it is used on human beings.

But however careful this process of attenuation has been carried out, although confident the experimenter may be, that the virulence of the bacilli has been reduced to a minimum, there always must be some danger attending the inoculation of a human being with a medium containing the poison of perhaps the most fatal disease known, and it may be a long while before the method becomes very popular in the treatment of this direful fiend.

SMALL-POX OR VARIOLA.

This is a highly infectious and contagious disease, which after a period of incubation of about twelve days, is ushered in by a high chill, or in some cases by a series of chills, followed by high fever, the thermometer sometimes showing 104° to 106° elevation of the bodily temperature. Nausea and vomiting are often prominent symptoms in this stage, with coated tongue. Pain in the "pit of the stomach" and limbs are seldom wanting, while intense headache and severe pain in the back are always very marked symptoms in the early stage of the disease. Convulsions often attend the development of small-pox in children, and may indeed occur in adults. The duration of this stage, as a rule, is about three days—the symptoms reaching their maximum on the third day, when the eruption begins to appear in minute hemispherical, shot-like, reddish papules; first on the face, neck and wrists, and in two days spread over the rest of the body, including the mucous membranes. These papules enlarge in two or three days, are converted into vesicles, which become navel-shaped, increase in size, and about the eighth day are changed into pustules, which increase in size for several days and may either run together and constitute the confluent form of small-pox, or remain separate when they are known as the discrete form of the disease. The general symptoms decline suddenly with the formation of the eruption, but as soon as the pustules are developed there is a sudden increase of the fever, with chills, which is known as the

“secondary fever.” When maturation is complete (this being about the eleventh day of the disease), the secondary fever abates and the pustules begin to dry up with the formation of scabs, the skin at the same time exhaling a very fetid odor. The scabs fall off leaving pitted cicatrices. The confluent form is very fatal.

Causation.—Small-pox is a highly contagious disease, and is readily conveyed from person to person. It is readily transported by means of clothing, or anything which may retain the contagium in an effective condition for months and even years. A very transient and slight exposure often suffices for the production of the disease. Thus, it is very frequently taken by passing in the street or meeting in public conveyances persons who either are, or have been, recently affected with it. The disease may easily be communicated from the dead body by means of emanations.

The susceptibility to the disease exists in all ages, but children are most liable to contract it. Some persons are wholly insusceptible to it, exposing themselves as fully as possible, without getting it. But cases have been observed in which persons have contracted the disease who were for a long time insusceptible to it. The negro and Indian are particularly liable to get the disease.

As a rule people have the disease once only, but instances are quite frequent where it has occurred twice, and sometimes thrice, in the same person.

VARIOLOID.

This is a form of small-pox which is distinguished by its mild symptoms and by the drying up of the pustules before they are fully formed.

TREATMENT.

There is no special treatment for small-pox. The general treatment involves the same principles as in the other fevers. All the hygienic conditions which are so important in the treatment of typhoid and other fevers, are not less important here. Ventilation as free as possible is of especial importance, together with

isolation of the patients. Vaccination of the sick and well is imperative as a preventive. Measures addressed to the symptoms presented and complications.

To prevent pitting, many agents have been recommended, such as evacuation of the vesicles by means of a fine needle, nitrate of silver and tincture of iodine applications, etc. But the best agent for the purpose is carbolized oil or other fat over the surface, sprinkled with sub-nitrate of bismuth or prepared chalk. The treatment of varioloid does not claim separate consideration. The same principles are involved as in the treatment of ordinary small-pox. The comparative mildness, in the great majority of cases, renders active treatment unnecessary. Usually little is required beyond hygienic measures.

CHICKEN-POX.

Chicken-pox, or varicella, as is well known, in some respects resembles variola, or small-pox. A failure to discriminate between the two may subject the patient to the contaminating atmosphere of a small-pox hospital, or, on the other hand, endanger the health and lives of many of his neighbors. It is, in fact, solely for the purpose of deciding this important point that the physician is usually called to see cases of varicella.

So common are epidemics of chicken-pox—as a rule, one and sometimes two such epidemics occur each year—that it is rare for any one to reach adult life without having contracted it. Those who have never had it must enjoy some peculiar immunity, since it is probable that every adult has many times been exposed to its contagion.

In the city of Leipsic an epidemic of chicken-pox has been noted to occur regularly after the opening of the infant schools.

Notwithstanding the frequency of chicken-pox, and the usual mildness of its course, it should not be dismissed as of no importance. The child should be directed to stay in the house while the eruption lasts, and during the time in which there is fever he should remain in bed.

An eminent writer on the subject recently emphasized the fact that the disease may leave a tendency to enlargement of the lymphatic glands of the neck, which may then become the focus of tubercular infection. Cases of a severe type should subsequently be treated with appropriate tonics.

Pallor, which sometimes follows the disease, should receive a physician's care. The eruptions on the face should be looked after in a careful way in order that scars may not result.

After all cases an abundant supply of nourishing food and pure air should be provided, in order that no physical weakness may continue as a sequel to the disorder.

CHAPTER XXII.

MISCELLANEOUS.

Insomnia, Its Cause and Treatment—Fear As a Factor of Disease and Death—The Blood, the Quantity in a Human Being—The Corpuscles and Circulation—The Function of the Blood—Vital Temperature and the Use of the Fever Thermometer—Local and Atmospheric Temperature—Baldness and How to Take Care of the Hair—Many Valuable Hair-Tonics—How to Darken the Hair—Foul Breath and How Remedied—Spermatorrhœa—Its Causes and Consequences—Why Parents and Others, Should Guard the Children in Their Charge Against Evil Habits—Sexual Excesses and What They Entail—How to Make All Kinds of Poultices—Abortion—The Awful Crime and Endangerment to Life of Criminal Abortion—Doctor Cathell's Emphatic Denunciation on the Subject—The Best Anti-fat Remedy—How to Cure Sweating Feet and Correct Foul Odor—The Way to Remove Freckles—Many Invaluable Health Notes.

INSOMNIA, ITS CAUSES AND TREATMENT.

The cry for rest has always been louder than the cry for food. Not that it is more important, but it is often more difficult to obtain. The best rest comes from sound sleep. Of two men or women, otherwise equal, the one who sleeps the better will be the more moral, healthy and efficient.

Sleep will do much to cure irritability of temper, peevishness and uneasiness. It will restore to vigor an overworked brain. It will build up and make strong a weary body. It will cure a headache. Indeed, I might make a long list of nervous and other maladies that sleep will cure.

The cure of sleeplessness requires a clean, good bed, sufficient exercise to produce weariness, pleasant occupation, good air, not too warm a room, a clear conscience, and avoidance of stimulants and narcotics. For those who are overworked, haggard and nervous, who pass sleepless nights, I recommend the adoption of such habits as will secure sleep. Otherwise life will be short, and what there is of it, sadly imperfect and unsatisfactory.

I really can not conceive of any person so unhappy as one who is the victim of this very distressing and troublesome complaint—sleeplessness. Loss of sleep may bring on brooding over imaginary ills ; the person may grow despondent, irritable, morbid, and sometimes, indeed, it may lead to insanity.

The causes of insomnia are numerous and varied ; but it is not my intention to describe them here, as I shall only treat of such cases, and their remedies, as may likely chance to come under the observation and treatment of the laity, leaving those of an organic source to be treated by the profession.

A full meal of oysters, in any form, before going to bed, is known to work satisfactorily in some instances. In children, and adults also, wakefulness may often be overcome, and quiet sleep insured, by a tepid bath taken just before retiring. Where overwork of the brain, fatigue or mental worry is the cause, the bromides of potassium, sodium, ammonium, lithium, etc., are specifics, and their hypnotic action is very happy indeed. Galvanization, as the application of the galvanic battery is termed, has been known to afford great relief in some cases.

When wakefulness is due to a condition of cerebral anaemia, a full dose of some alcoholic stimulant, whisky or brandy (a moderate drink, immediately before retiring and only then) will produce sound and refreshing sleep. In some subjects a glass of ale, porter, or beer answers better. Opium or its alkaloid, morphine (the latter hypodermatically injected) will always rank as the best sleep producers, especially where pain exists. As a hypnotic, pure and simple, hydrate of chloral is quite unrivaled. Cases of sleeplessness due to mental overwork, anxiety, or physical fatigue, are entirely relieved by fifteen to twenty grains of chloral.

The refreshing sleep thus obtained not infrequently leads to repeated and long-continued use of the drug, and thus a habit may be formed which should always be interdicted. Hence I recommend that first proper hygienic and dietetic methods be employed, and after all such fail, hypnotics may be used, but only as a last resort. Where sleeplessness is superinduced by indigestion, habitual constipation, or dyspeptic ailments in general, attention should be given to those disorders.

FEAR AS A FACTOR OF DISEASE AND DEATH.

The influences of mental emotion on the animal economy has never received the consideration its importance demands. Accustomed to regard the mind as something apart from the rest of the human mechanism, we are apt to overlook it when investigating questions of animal pathology; and we constantly underrate its power over the processes of growth and decay going on within us.

For illustration, the writer desires to cite a few instances of the effects of mental emotion in totally changed healthy conditions, replacing them by serious and even fatal disorders.

A criminal who had been condemned to death for murder, was given into the hand of a celebrated French surgeon. He was told that his judges had decided that he should be bled to death on a certain hour the following day. When the appointed time arrived he was blindfolded and placed in bed. The surgeon then made a small incision through the skin, which did not involve any of the blood-vessels. One of the persons interested in the experiment placed his finger on the pulse, another held a vessel of luke-warm water above the wounded arm and allowed the liquid to trickle over its surface and drop on the floor. Meanwhile the doctor, in his conversation with the assistant, alluded to the gradual weakening of the pulse, the fluttering of the heart, the paleness of the countenance and the ebbing away of life, until the criminal, fully convinced that his end was near, fainted and died, without having lost a single drop of vital fluid.

A similar incident occurred in St. Petersburg less than a year ago. A criminal, who had been condemned to suffer the death penalty, was told that he was to sleep in a bed from which the dead body of a cholera patient had just been removed. He was then conducted to a well-ventilated room and placed in a bed perfectly clean, which had never been used. Toward morning he was taken with all the symptoms of cholera, and died in a few hours.

Fear and worry favor the acquisition of diseases like cholera, yellow fever, etc., etc. Terror has changed the color of the hair from black to white. Fear may excite the sweat glands to such

an extent as to bathe the skin in a profuse perspiration. The same emotion may so excite the action of the heart as to make its impulses perceptible through the clothing. A single thought will often take away the appetite, or the remembrance of some favorite article of diet will create one and cause the saliva to secrete in abundance. Excitement and worry may cause convulsions, dizziness, intense headache and dimness of vision, together with diarrhœa and incontinence of urine. The same causes frequently lead to indigestion, and over-indulgence of the mental faculties is a very frequent source of dyspepsia.

THE BLOOD—THE QUANTITY IN A HUMAN BEING.

The determination of the entire quantity of blood contained in the body has long engaged the attention of physiologists, without, however, any absolute definite results. Chiefly because the blood is not all discharged from the body after division of the largest vessels, as after decapitation. The proportion of blood to the body is, however, stated at about one to ten, and is less in the infant than in the adult and is diminished in old age.

THE CORPUSCLES AND CIRCULATION.

Where blood is drawn from the body and allowed to stand, it solidifies in the course of a few minutes into a jelly-like mass, which then separates into two parts, a "clot" or "coagulum," and a yellowish fluid, the serum, in which the clot floats. This clot consists of a solid, colorless material, called fibrin, and a large number of minute cells or corpuscles, called blood corpuscles, which are entangled and enclosed in the fibrin.

These corpuscles are of two kinds. The one kind greatly preponderating over the other, in point of numbers, is termed the colored or red corpuscles; the other, fewer in number and less conspicuous, is termed the colorless or white corpuscles. The number of red corpuscles in the blood is enormous. Between 4,000,000 and 5,000,000 are contained in a cubic millimeter. The white corpuscles are very much less in number, and there is only

one for 600 to 1200 red ones. The size of a red corpuscle is about one thirty-five hundredth of an inch in diameter and one twelve-thousandth of an inch in thickness.

The white corpuscles are rather larger than the red, measuring from about one twenty-hundredth to one twenty-five-hundredth of an inch in diameter. Human blood is also composed of water, albumen, fibrin, an animal coloring substance, a little fatty matter and different salts, as chlorides of potassium and sodium, phosphate of lime, subcarbonate of soda, etc. Harvey discovered the circulation in the year A. D. 1616, and in 1628 published his works on the same.

There are also besides the red and white, a third variety of blood corpuscles, called blood-plaques, which are still smaller than the red, being from one-third to one-fifth their size, globular in shape, gray in color, and existing in proportion of one to eighteen or twenty of the red. Their use is unknown.

THE FUNCTION OF THE BLOOD.

The office of the blood is to convey nutrition to all parts of the body, and to remove its waste material. The blood has still an other function, that of keeping the body warm. Animal heat is generated by continual chemical change, in which the blood is an active agent. The bodily temperature in health remains nearly the same, about 98° F., in spite of the variations of the external temperature. The action of the skin keeps the heat from accumulating, and the arteries, under the influence of the nervous system, dilate or contract, and so assist in maintaining the equilibrium by altering the rate of production to correspond with the loss of heat. Life is secure so long as the production and the escape of heat are evenly balanced.

VITAL TEMPERATURE.

There is a definite daily variation of temperature amounting to one or two degrees. The temperature of a healthy adult reaches its highest point between 5 and 8 P. M., and its lowest

from 2 to 6 A. M. A deviation of more than one degree from normal, that is above 99° , or below 97° , may be regarded as indicative of disease. There is a range of temperature of about 20 degrees only in which life can be sustained. A temperature of 108° or below 93° , will usually prove fatal. The danger is in proportion to the distance from the normal, and to the length of time that the condition continues. Temperature below normal is far more dangerous than the same number of degrees above. Very high temperature sometimes occurs in hysteria without danger. Rise of temperature above 99° constitutes fever.

USE OF THE FEVER THERMOMETER.

A change of temperature may be the first symptom of disorder, occurring even before indisposition is felt. It is of importance to get this first variation from the normal temperature, and as medical advice is not likely to be called for until more evident symptoms have manifested themselves, every family ought to own a clinical thermometer and to know how to use and read it. One can do no harm, but may do a great deal of good, by using it upon the first suspicion of departure from health.

Any great modification of temperature is usually recognizable to the touch, but to measure its extent with mathematical certainty the clinical thermometer must be used. Before use the index must be thrown down to a point two or three degrees below the normal. Hold it with the bulb down, and shake until the mercury falls, but do not shake it so hard as to force all the mercury into the bulb. The temperature may be taken under the tongue, in the axilla, groin, rectum, or vagina. A little time may be saved by slightly warming the bulb in the hand before its introduction. Where great accuracy is needed, the thermometer should be left in place until the index has remained stationary for at least five minutes.

LOCAL TEMPERATURE.

When the temperature is to be taken by mouth the bulb of the thermometer is placed under the tongue and the lips must be

kept closed during the process. Do not take the temperature in the mouth immediately after one has been eating ice, nor wash the thermometer in warm water before looking at it, as you will get alarming results.

The rectum gives, perhaps, the most reliable temperature, as there are but few possible sources of error. For infants this method is the best to employ. The tube should be oiled and inserted for nearly two inches. Be sure that the tube comes directly in contact with the mucous membrane, for if the rectum contains faecal matter, the index will reach a point lower than it should be. Keep the patient well covered for some little time before taking a temperature in the axilla, or armpit. The armpit being first dried, care must be taken that the thermometer is held firmly in position. This is best done by pressing the arm closely to the side, upward to touch the opposite shoulder.

Some of the medicines given for fevers, may bring the temperature down in two or three hours from a high, to a subnormal point, especially in children, who are very susceptible to the influence of drugs.

The pulse and the temperature should always be considered together, not separately. The pulse is a more certain test of the patient's condition than the temperature. There are three kinds of thermometers; that of Fahrenheit, that of Reaumur, and that of Celsius or the Centigrade. Fahrenheit's is the standard used in this country. According to Fahrenheit's scale, water boils at 212° and freezes at 32° . The means employed to reduce the bodily temperature are by sponging the entire body with tepid or cold water, which may advantageously be acidulated by the addition of a little vinegar or alkalinated with bicarbonate of soda. Physicians now very successfully employ a class of medicines called antipyretics (opposed to fever) to lower the temperature. The chief among these are antipyrine, antifebrin, phenacetine, acetanilid and antikamnia. Sulphate of quinine also has these properties, given in large doses. All of these remedies should be administered with the greatest care and always by advice of a physician.

ATMOSPHERIC TEMPERATURE.

The human body can bear a high degree of heat diffused in the atmosphere. There are cases on record where air of 400° Fahr. has been breathed with impunity for a short time. It is also a fact that the human body can withstand very severe cold. Explorers of the Arctic regions and the extreme northern part of Siberia, have reported the thermometer as low as 90° and more below zero. The greatest natural cold known is estimated at 105° below zero, the highest natural temperature is in Egypt, 117 degrees. Apropos of temperature, I deem it not amiss, for the sake of general information, to state that water simmers at 178° Fahr., and boils at 212° Fahr., and 110° is the temperature at which tea, coffee or other liquids are often drunk. Water freezes at 32° Fahr.

BALDNESS AND HOW TO TAKE CARE OF THE HAIR.

Baldness or falling of the hair (the technical term of which is "alopecia," being from the Greek alopet, a fox, because this animal was supposed to be particularly affected with bald patches), is a very frequent affection and generally distinctly a constitutional ailment. One should watch for the first symptoms of baldness and endeavor to check it by judicious means.

The treatment of all kinds of loss of the hair should consist in stimulation of the scalp by friction with a good hair brush and by shampooing with alkaline, oily and fatty lotions, and in invigoration of the hair. Where dyspepsia, with headache, is the prevailing cause, that must be removed. If habitual constipation be the trouble, proper means must be adopted for bringing the alimentary canal into good working order. Fruit should form a part of the diet winter and summer. The cold bath should not be neglected, with now and then a course of tonics. Especially if debility be present, the vegetable tonics or the syrup of the hypophosphites and cod liver oil will do much good.

In the debility of young men, associated with nervousness, where the baldness occurs in sharply outlined smooth white

patches, moderate doses of the bromides may advantageously be taken three times a day for a month, in conjunction with iron or the syrup. Sea air and sea bathing do good if the person's means allow them. The bed room and living rooms generally should be extra well ventilated. The mattress should be a hard one and no more clothing worn by day or night than is absolutely necessary. The scalp must be kept very clean. Washing the hair once a fortnight, using yolk of egg instead of soap, or a saturated solution of boracic acid, and not drying too roughly, will be most advantageous.

Afterwards a simple pomade may be used sparingly. A good hair brush should be used daily to thoroughly stimulate the scalp. The following is a very good application, to be used night and morning: Take of tincture of cantharides two ounces, distilled vinegar two and a half ounces, spirits of rosemary the same quantity, and fill up to a pint with elder-flower water. Cutting the hair short does little or no good, as baldness is a constitutional malady, as before stated. The head should never be covered in the house, and just as lightly as possible out of doors. A light, well ventilated hat is the best head-dress, a close-fitted cap the worst.

Baldness is much more rare in women than in men, as all will have observed, much because of their loose head-gear. Does any one, I wonder, wear a nightcap in this enlightened nineteenth century? If so, let him burn it at once, if he values the health of his hair and head.

Next to the folly of drinking night caps comes that of wearing them. Actual baldness is not invariably irremediable, but as a rule it is. The same treatment will prove beneficial, but stronger stimulants may be required, and before they are applied the scalp should be well fomented with warm water. When hair begins to grow, frequent shaving does good.

But on the whole, as regards baldness, its prevention is easier than cure. Temporary falling of the hair, after typhoid fever, is a very common sequel, but permanent baldness is extremely rare. The new hair often lacks lustre at first. It occasionally happens that curly hair has grown in these cases in which it was previously straight, but this condition need not be permanent.

VALUABLE HAIR TONICS.

The following tonics for the scalp are of very great value for the premature falling out of the hair, owing their action to their stimulating properties chiefly :

R

Tincture Spanish Flies,	two drachms.
Tincture Red Pepper,	two drachms.
Tincture Nux Vomica,	two drachms.
Castor Oil,	two drachms.
Alcohol,	three ounces.
Spirits of Rosemary,	one ounce.

Mix. Apply to scalp night and morning.

R

Pilocarpine Muriate,	twenty grains.
Vaseline,	one ounce.
Lanolin,	one ounce.

Mix. Rub in scalp carefully twice daily.

HOW TO DARKEN THE HAIR.

The following receipt will gradually darken the hair and surely produce no injurious results.

R

Rain Water,	one pint.
Alcohol,	two ounces.
Essence of Rose.	thirty drops.
Powdered Blue Vitriol,	two drachms.

Mix thoroughly and apply once or twice a day.

FOUL BREATH AND HOW REMEDIED.

Offensive breath is a functional disorder liable to occur at all periods of life. Men are more subject to it than women. It is a prominent symptom of many morbid conditions. The affection derives its importance from the fact that it is a constant source of great unpleasantness to all who are by force of

circumstances, compelled to associate with the unfortunate person. In its worst forms it effectually destroys the communion of friends and the pleasures of social intercourse. Even the harmony of the home circle is invaded by a feeling of repugnance, which the best of us can scarcely control. Yet, how few of the afflicted persons detect the cause of their isolation, or recognize the barrier which effectually prevents the approach of those near and dear to them?

With the best intentions in the world, we rarely whisper a word of their disorder or suggest a source of relief—even though their breath is as fetid or foul as a pile of offal or carrion. This false kindness—this demoralizing weakness is universal. Bad breath is caused by numerous disorders, such as nasal catarrh, ozæna, necrosis and caries (decay) of the nasal bones, polypi of the nose, putrid bronchitis, decayed teeth, etc., etc. But the most frequent source of foul breath arises from indigestion or dyspepsia, the victims of which are many, and this is a form of the disorder, which is very amenable to proper treatment, indeed. In order to become acquainted with the sources of the fetor, to be enabled to prevent as well as remove the same, we must investigate some of the physiological working of the animal organism.

In a work like this such investigation must necessarily be brief, and I am compelled for lack of space to limit myself mostly to treatment and suggestions as to the appropriate remedies for this complaint, coming from whatever source possible. Mental emotions, indigestion and habitual constipation are very frequent causes of bad breath. Caries of the nasal or jaw bones, ulceration of the lining membranes of the nose, mouth, pharynx, larynx, trachea, in deeply-seated catarrhal affections or chronic inflammation of the bronchial tubes—all constitute possible causes of this disgusting affection.

TREATMENT.

The first and main step in the successful treatment of this affection consists in the discovery and removal of the cause, otherwise no permanent benefit will be obtained, as the fetor, or foul

breath is in fact, only a *symptom* of some of the numerous disorders mentioned, and not the disease *per se*.

In foul breath from catarrh of the throat or nose, one of the best solutions for either gargle or spray is the following :

R

Chlorate of Potash,	one-half drachm.
Zymocide,	one ounce.
Glycerine,	one ounce.
Water,	four ounces.
Carbolic Acid,	ten drops.

Mix. To be applied four or five times a day.

The reader is respectfully referred to the article on nasal catarrh.

Where the affection is due to habitual constipation, dyspepsia or indigestion, a permanent cure can be obtained by following the treatment suggested in those articles. The following is an invaluable tablet for dyspepsia with foul breath, and can be obtained at any first-class drug store.

R

Pepsin,	one grain.
Charcoal,	two grains.
Bicarbonate of Soda,	three grains.

Dose, one to two tablets before meals.

SPERMATORRHŒA—ITS CAUSES AND CONSEQUENCES—WHY PARENTS AND OTHERS SHOULD GUARD THE CHILDREN IN THEIR CHARGE AGAINST EVIL HABITS.

We come now to a subject which parents, guardians and teachers, out of a mistaken motive, shun like a pestilence, but which it is clearly the duty of the conscientious physician to speak about, and to speak about plainly, *viz.*: self-abuse (onanism) and its invariable result, spermatorrhœa — involutary emission of semen.

Few parents have a conception of the present extent of this practice of masturbation among children, especially among boys ;

neither do they know, until they learn through unpleasant experience, what penalties nature may exact for this unnatural abuse of its gifts.

The first, and most common effect of masturbation, is, as above stated, spermatorrhœa—more or less frequent, and always involuntary, emissions of seed. If these emissions occur nightly—and, perhaps, more than once during the same night—they call for remedial measures, although their morbid effects have been much exaggerated by unprincipled quacks. Occurring in persons who, from any cause, are debilitated, these emissions may take place without erection or titillation, and with little, or no venereal excitement, the afflicted sometimes becoming aware of their occurrence only through the seminal stains. Occasionally these emissions take place during the day, when venereal desire is, from some cause, excited. These are called *diurnal* in contradistinction from the usual *nocturnal* emissions. Persons who have been addicted to venereal excesses, or to the unnatural habit of masturbation, can hardly expect any other result of their course than spermatorrhœa.

On the other hand, perfectly healthy and virtuous people may have occasional involuntary nocturnal emissions. If they occur infrequently, they are physiological and denote merely a healthy state, not a diseased condition, of the system—in other words, indicate simply a certain amount of functional activity in the genital organs.

In either case, whether these emissions are natural, or the result of vice, every physician holds, or should hold, in his hand the means of cure, providing the patient pursues the course laid down for him. And, in this connection, the writer desires to especially warn patients afflicted with spermatorrhœa against the unscrupulous quacks who flood the land with books, pamphlets, lectures, etc., the sole aim of which is to rob the victims of their dollars and cents. Readers, when you see a circular, or advertisement, headed “Lost Manhood Restored,” “Impotence Surely Cured,” “Sexual Weakness and the Remedy,” be assured the whole business is a snare and deception—a trap for the ignorant, or inexperienced. Woe be to those who dose themselves with the harmful nostrums of these rogues; their last state will surely be worse than the first.

SEXUAL EXCESSES AND WHAT THEY ENTAIL

Excessive indulgence in sexual intercourse, or in masturbation, almost invariably leads to spermatorrhœa, impotence, dyspeptic ailments, vertigo, functional disorder of the heart, melancholia, hypochondriasis, etc. So it is easy to understand that patients require the best of medical treatment and can only be injured by quackery.

Reader, if you suffer through the causes above enumerated, I kindly advise you to consult your home doctor, one who, you can be certain, is both skilled and conscientious, to whom you can intrust your secret with a certainty of silence and from whom you will obtain sure relief, if relief be necessary or possible.

In conclusion, while excesses in sexual intercourse cannot be too severely condemned, there are no words strong enough to denounce the sinful and baneful habit of self-abuse—masturbation. God himself has set his seal of condemnation upon it (see the Scripture account of Onan), and it is the clear duty of the physician not only to endeavor to discover and correct this filthy and destructive habit in individuals, but to enjoin upon parents, guardians, teachers and associates the great importance of watchfulness, as to this matter, over the young for whose future welfare they are, to a greater or less degree, responsible.

The evils of excessive indulgence of this sort, aside from all moral questions, are greater when it is either illicit or unnatural; marital, lawful, God-intended intercourse is beneficial, not prejudicial to good health, but its reverse brings, it may be a slow, but a sure, reward of torture and, in some instances, of death. While, no doubt, the limits of lawful intercourse may vary in accordance with the health and disposition of the parties, their constitutional vigor, it may be ordinarily considered as excessive if the act of coition is repeated more than a few times a week. If married people would bear this fact in mind, there would be less complaint, as to their general health, by husbands and wives.

TREATMENT.

In the treatment of seminal emissions, the distinction which has been made between their physiological and pathological

significance is to be kept in view. Occurring only now and then in a person of full health, in addition to assurances of their harmlessness, it will generally suffice to advise moderation in the use of wine or liquors and stimulating articles of food. Saline laxatives occasionally, cold ablution of the genital organs at night, avoidance of undue warmth from the bed or bed-clothes, the mind to be diverted as much as possible from provocations of sexual desire. If these measures do not suffice, certain anaphrodisiac remedies like bromide of potassium, camphor, lupulin or tincture of hops, conium and belladonna are called for. When the emissions depend upon irritability and weakness of the generative organs, these cases are of more importance and the treatment is more difficult. Quinine, small doses of strychnine and the preparations of iron are useful; sea-bathing or the sponge-bath and out-of-door-life, gymnastic exercise, etc., are valuable adjuncts. The diet should be nutritious but not stimulating, and alcoholic stimulants are to be interdicted. At the same time healthful occupations and chaste associations must constitute the moral part of the treatment, which must not be neglected. Taking into view all the circumstances in individual cases, it is frequently judicious to encourage or recommend marriage, indeed while this is always remedial in the milder form of these unhappy cases, it likewise not infrequently benefits the most severe forms of this affection.

Spermatorrhœa or these emissions are apt to follow gonorrhœa, and particularly those cases which are protracted or where too strong injections have perhaps been employed, and are consequently dependent more or less on urethral stricture. The successful treatment of such cases requires the use of the bougie or sound and cauterizing applications. Seminal losses, indeed, often depend on an abnormal sensibility at or near the prostatic part of the urethra (that portion of the canal which is next to the bladder) and I have had great success with this mode of treatment. Skilled physicians can readily make the application of a weak solution of nitrate of silver to these parts of the urethra, provided they have the proper instruments.

HOW TO MAKE ALL KINDS OF POULTICES.

A cataplasm or poultice is defined as "a soft, but more or less coherent, semi-fluid mass placed hot upon the skin for the purpose of applying heat and moisture." They are of very great value and owe their utility more to their moisture and warmth than to the ingredients of which they are composed. It is well that every one should know the proper way to make these very useful applications. They are formed of various ingredients and serve for different purposes. Their main use is in the treatment of swollen, painful or inflamed parts. They act as sedatives, and thus relieve pain and relax the parts to which they are applied—even when the pain is deeply seated, and they are excellent adjuncts in the treatment of inflammation in general. Poultices of an antiseptic nature are invaluable vehicles or applications in all wounds or ulcers of an unhealthy, foul or sloughing nature. Large poultices are sometimes applied upon the belly to allay pain, as in cramps of the stomach or pain in the abdomen in general.

FLAXSEED-MEAL POULTICE.

Place the ground flaxseed in a basin and pour on boiling water, mixing it thoroughly, so there will be no lumps. Spread it a quarter of an inch thick upon folded cloth and lay over it a piece of cheese cloth. Apply as needed.

SLIPPERY-ELM POULTICE.

Moisten the powdered slippery-elm bark with hot water, spread and apply as directed for flaxseed poultice.

BREAD AND MILK POULTICE.

Break up wheat bread into small pieces and pour on boiling milk and stir well until the mass is brought to the thickness of mush. Spread upon a cloth and apply to the surface intended to be poulticed. Where there is much pain a little aconite or laudanum spread on the poultice will enhance its value greatly.

YEAST POULTICE.

Take about one pound of oatmeal and add to it one half pint of yeast and heat the mixture until it swells. Apply to cloth as in other poultices. Antiseptic and good application to bruises.

CHARCOAL POULTICE.

Powder fresh charcoal and mix it with bread. Pour on warm water and stir it thoroughly and apply in such quantities as may be deemed necessary. Used as antiseptic to foul ulcers, etc.

ONION, TURNIP OR CARROT POULTICES.

Boil the onions, turnips or carrots and stir in sufficient cornmeal to make a thick paste. Apply warm to surface. Used much in fetid ulcers.

MUSTARD POULTICE.

Mix ground mustard with warm water and apply next to the skin, or for milder effects, place a thin cheese cloth between the skin and the poultice.

WHEAT BRAN POULTICE.

Place the quantity of bran required, according to the size of the poultice, upon the top of boiling water, and when the heat has penetrated the bran, stir it gently in. Pour off the surplus water, and apply the poultice as hot as it can be borne.

BREAD POULTICE.

Boil about one-half pint of water in a small, clean, lined saucepan ; into this put two ounces of stale bread, and let it soak for a few minutes, and apply.

HEMLOCK POULTICE.

Hemlock poultices, made by spreading soft extract of hemlock on an ordinary flaxseed poultice, are very beneficial in malignant painful ulcers.

A solution of chlorinated soda, when added to a flaxseed poultice, is a valuable application to foul, offensive ulcers.

ABORTION—THE AWFUL CRIME AND ENDANGERMENT TO LIFE
OF CRIMINAL ABORTION—DOCTOR CATHELL'S EMPHATIC
DENUNCIATION ON THE SUBJECT.

Abortion should never be *attempted*. The term abortion is applied to the expulsion of the fœtus from the womb, when it occurs at a period of pregnancy when the product of conception is not yet viable (capable of living outside of the womb) that is to say, an abortion may take place at any time between the commencement of pregnancy and the end of the sixth month. Persons outside of the profession, often designate abortion under the title of miscarriage, but medical men, apply the term miscarriage only when the fœtus is capable to sustain life outside of the womb or after the sixth month and when the birth of the child is premature. The causes of spontaneous abortion are very numerous, first from the constitution and bad general health of the mother, second from diseases of the ovum and third from diseases of the womb and its appendages. Abortifacients are medicines capable of producing abortion. When taken in doses sufficiently large to produce this result, they are all very dangerous to life, and the writer cannot too strongly condemn their use and also the person who seeks such sinful means, and hereby appropriately quotes on the subject from that excellent guide for the young physician, written by Dr. D. W. Cathell, of Baltimore, Md., entitled "*The Physician Himself*," viz :

"When you are importuned to produce abortion, on the plea of saving the poor girl's character, or to prevent her sister's heart from being broken, or her father from discovering her misfortune

and committing murder, or to prevent the child's father from being disgraced, or to avert the shame that would fall on the family, or the church scandal, or to limit the number of children for married people who already have as many as they want, or for ladies who assert that they are too sickly to have children, or that their suckling child is too young to be weaned, etc., etc., you should meet such entreaties and solicitations with a refusal prompt, chilling and emphatic, and never even seem to entertain the proposition. If they are too importunate, express your sentiments strongly.

“How could any one but a fool be induced to take the burden from another's shoulders to his own, by doing a crimson crime ; to violate both his conscience and the law, to risk exposure, social disgrace, and professional ruin, and even the penitentiary itself, by putting himself into any one's guilty power, whether as a favor or for a paltry fee?”

THE BEST ANTI-FAT REMEDY.

Youth is over when the weight begins to increase unduly ; it is not well to be too fat. For all kinds of work, middle age ought to be the best period with men and women, but it is not generally so, because most of us are too fat, consequently, too puffy for much agility.

All have the power of preventing themselves getting unwieldily stout, but some have much more difficulty than others.

The cause of too great accumulation of fat arises from over eating, and the want of sufficient exercise in the open air.

This prevents the waste products being removed from the body by oxidation. These used-up elements, therefore, instead of uniting with the oxygen of the air and becoming burnt out of the system, as they ought to be, remain behind, and become converted into fat. The day laborer may habitually indulge in an amount of food without increasing weight, which would add seriously to the bulk of a person who led a less active life, because his heavy work burns off the excess of food.

In people who do not become unduly stout, this excess of food is either carried off by what we call a bilious attack, an attack of

gout, or it sets up dyspepsia. Unfortunately, bulk disinclines to exertion so that with increase of flesh less work is done, while there is a growing disinclination to exert one's self, and in extreme cases a repugnance is shown to any form of exercise. These cases are among the most difficult to treat, for the sufferer, although he may wish for relief, lacks the energy to find it. If walking, running, riding, leaping, wrestling, bicycling, and all such exercises be indulged in, and the diet regulated, very few persons need to complain of their obesity.

Another receipt for reducing the weight is as follows: Eat, to the extent of satisfying a natural appetite, of lean meat, poultry, game, eggs, milk moderately, green vegetables, turnips, succulent fruits, tea or coffee. Drink lime juice, lemonade, and acid drinks. Avoid fat, butter, cream, sugar, pastry, rice, sago, tapioco, corn starch, potatoes, carrots, beets, parsnips and sweet wine. Exercise freely.

A SURE CURE FOR THE BAD ODOR OF SWEATING
FEET OR ARMPITS.

A solution of common soda [impure bi-carbonate] freely applied will remove the fetid sweat of the feet and the odorous emanations which in some persons escape from the axillary (armpit) glands.

For Freckles, Sunburn and Tan the following wash is a valuable remedy:

R	
Carbonate of Potassa,	three drachms.
Chloride of Soda,	two drachms.
Rosewater,	eight ounces.
Orange Flower Water,	two ounces.

Mix and apply with sponge four or five times a day.

A very strong solution of borax in rosewater is also a useful application to remove freckles, and can do no harm, even if it fail to cure.

AGENTS FOR REMOVING SUPERFLUOUS HAIR.

It is frequently desirable to remove hairs from parts where they are unsightly, as we so often see in women, growing on the arms and especially on the upper lip, thus constituting genuine moustaches. These can, however, be satisfactorily removed without pain as follows: Take equal parts of yellow sulphate of arsenic and quick-lime, make into a paste with hot water and apply to the hairy skin and allow the same to dry when the hair can then be wiped away without the least inconvenience. It will thus remove the hair for 20 days and often permanently. Electrolysis is the method of removing hair by electricity, and is preferable to the above mentioned plan of treatment in getting rid of strong hairs from moles and in the removal of moles themselves, especially such as contain many blood vessels.

HEALTH NOTES.

FOR SWOLLEN FEET.

Policemen, mail carriers, and others whose occupation keeps them on their feet a great deal, often are troubled with chafed, sore and blistered feet, especially in extremely hot weather, no matter how comfortably their shoes may fit. A powder is used in the German army for sifting into the shoes and stocking of the foot soldiers, called *Fuss-Streu-pulver*, and consists of three parts salicylic acid, ten parts starch, and eighty-seven parts pulverized soap-stone. It keeps the feet dry, prevents chafing, and rapidly heals sore spots. Finely pulverized soap-stone alone is very good.

HOW TO DUST THE SICK-ROOM.

A sick-room that needs cleaning can be made fresh and sweet without sweeping and without dust, by wiping everything in it with a cloth wrung out of warm water in which there are a few drops of ammonia. The rugs and draperies, though there should not be any in the room, the doctors tell us, may be put upon the

line for a thorough airing and wiped in the same way. The feather duster, which should be banished because it does no real good any way except to stir up and redistribute the dust, is especially out of place in the sick-room, where there may be and doubtless often are, germs of disease in the innocent-looking dust. If a patient is in a nervous state a screen may be placed in front of the bed while the freshening goes on. If the room can only be heated by a stove, the noise of putting in coal can be deadened by wrapping the coal in a paper before putting it on the fire.

TOBACCO IN THE BITE OR SCRATCH OF A DOG OR CAT.

For a bad cut or scratch from a dog or cat one of the speediest remedies to draw out poison, and at the same time heal the wound, is tobacco. Moisten a little chewing tobacco, either leaf or fine cut, and bind it on the wound. Unless very serious you will hardly know at the end of twenty-four hours that you have been hurt.

THE CURE OF A BUNION.

A bunion may be cured by bathing the affected part in hot water to which a teaspoonful of salt, a tablespoonful of starch and a few drops of arnica have been added, then wipe dry with a soft linen towel and apply iodine with a camel's hair brush. Wear a loose shoe all the time or one which has the leather covering the bunion cut out. Bunions are caused by undue pressure. A good plan, if you have to be out a good deal, is to have the shoemaker cut a piece from your shoe where it presses upon the bunion and replace it with an invisible patch.

TO CURE A STY.

To cure a sty, take the white of an egg on a saucer and rub into it a small pinch of powdered alum. It will become a curd. Put it between two pieces of muslin lawn and bind it over the eye before retiring for the night. In the morning the sty will be gone, or much better. One more application will be sufficient and no more sties will come.

GOOD HEALTH.

It may be said, I think with truth, that good health depends upon the harmonious relationship and rational use and conservation of the forces which carry on, as it were, the life of body, mind and spirit. In this earthly existence man is a complex creature. He is neither body, mind, nor spirit alone, but the three in one, inter-related, inter-dependent. If there is misappropriation, misdirection, misuse, waste of force in the case of one, the whole must suffer. One can not be overtaxed, or starved, or perverted from its right uses without injury and loss to all.

PROPER DIET FOR CHILDREN.

Children under two years of age are generally best fed on milk and milk foods, and the less this is departed from, as a rule, the better. Under this age they should never be taken to the table, for it only gives the child a fancy for articles of diet which, if it never saw, it would never want. In the great majority of cases, children have not much desire for animal food of any sort until the first dentition is over, unless the craving is fostered in them by their being given one thing and another to eat, and thus there is created what is almost an unnatural appetite. This, of course, is not intended to be an absolute rule, for many children want, and seem to need, after the first year, a meal once or twice a day of something besides bread and milk. But no mother should feel uneasy if her child takes almost nothing but milk and bread and butter until after it is two years of age.

TREATMENT OF INGROWING NAILS.

A very common and troublesome affection is that which is popularly termed "the ingrowth of the nail," and which most usually occurs by the side of the great toe. There is really no alteration in the nail, as its name would imply; the surrounding soft parts are first swelled and inflamed by constant pressure against the edge of the nail from the use of tight shoes. If this state is permitted to continue, an ulcer is formed in which the

edge of the nail is imbedded. Pain is the consequence, sufficiently severe in some instances to prevent walking. Treatment for this condition often demands the skill of a physician. The sufferer might attempt a cure by the simpler methods, and if they fail, professional assistance should be sought. The first object is to remove the cause, then to lessen the irritation and reduce the swelling. After soaking in hot water the nail should be thinned by scraping, and, if very painful, a flaxseed poultice will bring relief. After the irritation has sufficiently subsided, soft cotton should be pressed between the flesh and the nail, and, after that is done, it should be saturated with the tincture of iodine, and the application repeated several days, after which the tenderness will disappear. It may be necessary to lift the end of the nail, and this can be done by pressing cotton between it and the toe. This treatment is usually effective, and is attended with as little pain as any which can be suggested.

The injection of a solution of cocaine at several places in vicinity of the nail, renders the operation altogether painless. The removal of the entire nail which the skilled surgeon can very readily accomplish, is the better method. The operation can be rendered painless, by the use of cocaine, and the result is always highly satisfactory, a new and complete nail growing immediately.

DO NOT SLEEP ON YOUR LEFT SIDE.

When a patient complains of a bad taste in his mouth every morning on waking up, the first question I ask him is as to the position he assumes when going to sleep. An immense number of people sleep on the left side, and this is the most common cause of the unpleasant taste which is generally attributed to dyspepsia. If a meal has been taken within two or three hours of going to bed, to sleep on the left side is to give the stomach a task which it is difficult in the extreme to perform. The student of anatomy knows that all food enters and leaves the stomach on the right side, and hence sleeping on the left side soon after eating involves a sort of pumping operation which is anything but conducive to sound repose.

The action of the heart is also interfered with considerably, and the lungs are unduly compressed. It is probable that lying on the back is the most natural position, but few men can rest easily so, and hence it is best to cultivate the habit of sleeping on the right side. It is very largely a matter of habit, and the sooner it is acquired the better for the sleeper and the worse for the physician.

HOW TO PRESERVE THE TEETH—THE BEST TOOTH-POWDER—
LISTERINE, THE MOST EFFECTIVE, HYGIENIC, AS WELL
AS THE MOST ELEGANT MOUTH-WASH.

Much has been said and written of late in reference to the preservation of the teeth. I find in practice that it is a difficult task to get the patient to follow the instructions of the dentist regarding the care of the teeth.

It is a fact well demonstrated that the dentist is often called on to extract a tooth which might have been useful to its owner for many more years, if it had received proper care and attention.

We all argue—and justly—*scrupulous cleanliness* as much depends on the patient as on the dentist if they wish to keep nature's gift, and no amount of professional skill will keep the teeth unless care is taken of them by the patient.

One of the most skillful dentists in New York gives these rules for the care of the teeth :

Use a soft brush and water the temperature of the mouth. Brush the teeth up and down in the morning, before going to bed and after eating, whether it is three or six times a day.

Special care to brush well around the posterior teeth, inside and out. Followed by waxed floss silk or narrow elastic bands between the teeth, avoiding the gums as much as possible. This keeps the surfaces, especially those on the sides of the teeth touching each other—the approximal sides—clean. Food allowed to lodge there will inevitably decay.

Use a tooth powder twice a week, not oftener, except in case of sickness, when the acids from a disordered stomach are apt to have an unwholesome effect upon the dentine. Avoid all tooth

pastes and dentifrices that foam in the mouth ; the lather is a sure sign of soap, and soap injures the gums without in any way cleansing the teeth.

The very best powder is of precipitated chalk ; it is absolutely harmless and will clean the enamel without affecting the gums. Orris root or a little wintergreen added gives a pleasant flavor, but in no way improves the chalk. At least a quart of tepid water should be used in rinsing the mouth. A teaspoonful of listerine in half a glass of water used as a wash or gargle after meals is excellent ; it is good for sore or loose gums ; it sweetens the mouth and is a valuable antiseptic, destroying promptly all odors emanating from diseased gums and teeth. Coarse, hard brushes and soapy dentifrices cause the gums to recede, leaving the dentine exposed. Use a quill pick if necessary after eating, but a piece of waxed floss is better. These rules are worth heeding.

Be assured of the genuine listerine by purchasing an original bottle.

If you have an artificial denture, I caution you to keep it scrupulously clean. Many mouths are made sore by lack of care in this respect and the plate is unjustly blamed. If it is a vulcanite (rubber) plate, I advise you to use sapolio with a plate brush to thoroughly cleanse it.

The necessity of having the mouth examined twice a year is strongly advised, as cavities may exist and develop, which are not discovered until the nerve (pulp) of the tooth is exposed and pain ensues, which may indicate grave and serious results, often causing the loss of the offender.

In conclusion, let me say, that the dentist himself, should be very cautious about prescribing tooth-powders, or dentifrices, as many of these so-called dentifrices contain acids, charcoal, alum, etc., which are gritty and decidedly injurious to the teeth. A good tonic astringent mouth wash much more serviceable and effective, keeping the gums and mouth in a healthy hygienic condition, and aided by the brush and tepid water, the teeth are kept clean and are preserved for years of usefulness and beauty.

VOCABULARY.

- Abdomen (ab-doh'-men.) [L., probably from *abdere*, to hide.]
That portion of the trunk situated between the diaphragm and the pelvis.
- Ablution (ab-lew'shun.) [L. *albutio*, from *abluere*, to wash off.]
Purification by washing.
- Absorbent Cotton. [L. *absorbens*, to suck up.] Cotton deprived of its fatty matter by treatment with alkalies, and so rendered fit for absorbing water, etc.
- Accoucheur (a-koosh-ur'.) [F.] A male who delivers women.
- Actual Cautery (ak'tew-al kaw'tur-ee.) A hot iron used in cauterization.
- After-pains. Pains due to uterine contraction occurring in the days following labor.
- Albumen (al-bew'men.) [L., from *albus*, white.] The white of an egg.
- Aliment. [L. *alimen'tum*, from *alere*, to nourish.] Food.
- Alkalies (al'ka-li.) [Ar. *alqali*, potash.] Substances which have the power of restoring the blue reddened by acids.
- Alterative (awl'tur-ative.) [L. *alt'erāns*.] A medicine producing gradual change.
- Amylaceous (a'mi-lay'shus). Starchy.
- Anæmia. A state in which the blood is deficient either in quantity or quality.
- Ahthelmin'tic. A remedy against worms.
- Antidote. A remedy given to counteract a poison.
- Antipyretic. Opposed to fever.
- Antisep'tic. Preventing putrifaction.

- Apyrexia (ap'ey-rek'see-ah.) Absence of fever.
- Asep'sis. Absence of infection ; freedom from morbid germs.
- Assim'ila'tion. The process by which bodies appropriate and transform other matters into their own substance.
- Atrophy (at'ro-fee.) Wasting away.
- Aus'cult'a'tion. The act of listening, as applied to the heart and lungs.
- Axill'a. The armpit.
- Belch To expel wind forcibly from the stomach.
- Bistoury (bis'tur-ee) A small narrow bladed knife used in surgery.
- Borborygmus (bor-bo-rig'mus.) A rumbling of the intestine.
- Bougie (boo-zhee.) An instrument shaped like a candle for dilating mucous canals.
- Cadaver (ka-day'vur.) A dead body.
- Cæsarean Section (see-zay'ree-un.) The operation of removing a child from the uterus by incision through the abdomen.
- Calculus (kalk'yul-us.) A stone.
- Call'us. The new material thrown out to unite the fracture of a bone.
- Cap'illary. Hair-like in size.
- Capsule (kaps'yuhl.) A membranous expansion inclosing a part.
2. A gelatinous envelope in which medicines may be given.
- Cardi'tis. Inflammation of the heart.
- Carcino'ma. Cancer.
- Caries (kay'ree-eez.) Ulceration of bone.
- Carmin'ative. A remedy which allays pain by causing the expulsion of wind from the alimentary canal.
- Cat'alepsy. A disease in which there is sudden suspension of the senses and of the will, the body remaining in whatever position it is placed.
- Cat'amen'ia. The menstrual discharge.
- Cataplasm. A poultice.
- Causal (kaw'zul.) Directed toward the cause of a disease.
- Caustic (kaws'tik.) A substance which burns living tissues.
- Cer'vical. Pertaining to the neck.
- Cholagogue (kol'a-gog.) A medicine increasing the flow of bile.
- Cholera (kol'ur-ah.) An infectious epidemic disease.

- Cicatrix (si-kay'-triks.) A scar.
- Circumscribed. Distinctly limited.
- Clin'ical. At the bedside.
- Clyster. An enema.
- Coagula'tion. Curdling of a fluid.
- Collapse'. Complete prostration of the vital powers.
- Colly'rium. Eye wash.
- Colos'trum. The first milk secreted after confinement.
- Coma (koh'mah.) A state of profound insensibility.
- Com'plex. Complicated.
- Congen'ital. Existing from birth.
- Conges'tion. The accumulation of blood in any organ.
- Conjunctivitis (kon-jungk'-ti-vey'tis.) Inflammation of the conjunctiva.
- Coryza (ko-ri-'zah.) Catarrh, snuffles.
- Coun'ter-irritation. Irritation excited in any one part of the body to relieve another.
- Cramp. A painful, convulsive contraction of a muscle ; a spasm.
- Crisis (krey'sis.) The turning point in a disease.
- Cyanosed. Blue.
- Cystitis (sis-tee'tis.) Inflammation of the bladder.
- Decoc'tion. 1. The operation of boiling certain ingredients in a fluid. 2. The result of such boiling.
- Defecation (def'ee-kay-shun.) The discharge of fecal matter.
- Dementia. A form of insanity usually acquired which is characterized by great impairment of the memory and will.
- Demulcent (dee-mul'sent.) Soothing.
- Deodorant (dee-oh'dur-ent.) Destroying odors.
- Diagnosis (dey'ag-noh'sis.) Distinguishing one disease from another.
- Diaphragm (dey'a-fræm.) The large muscle separating the chest from the abdomen.
- Diathesis (dey-ath'ee-sis.) A peculiar disposition or condition of the system.
- Dietetics (dey'e-tet'iks.) A branch of medicine comprising rules of diet.
- Digital (dij'i-tul.) Pertaining to the fingers.

- Disinfectant. An agent which destroys septic germs.
- Diuresis (dey'yu-ree-sis.) An increased excretion of urine.
- Douche (doosh.) A column or shower of fluid.
- Dysphagia (fay'jah.) Difficulty in swallowing.
- Dyspnœa (disp-nee'ah.) Difficulty in breathing.
- Dysuria (dis-ew'ree-ah.) Difficult and painful passage of urine.
- Ec'zema. An inflammatory affection of the skin.
- Embrocation (em'broh-kay'shun.) A liniment.
- Emésis. The act of vomiting.
- Emmenagogue. A medicine promoting the menstrual discharge.
- Emollient (ee-mol'yent.) Substances which relax and soften the tissues.
- Emulsion. A mixture of oil and water.
- Endemic. Peculiar to a locality.
- Endocarditis (endo-kahr-dey'tis.) Inflammation of the lining membrane of the heart.
- Enter'ic. Intestinal.
- Epidem'ic. A disease attacking many people.
- Epistax'is. Hemorrhage from the nose.
- Eructation. Bringing up gas from the stomach.
- Escharotic. A substance which occasions sloughing.
- Exacerbation (ex-as'ur-bay'shun.) An increase in the symptoms of a disorder.
- Exanthem'ata. The eruptive fevers.
- Excoriation (eks-koh'ree-ay'shun.) An abrasion of the skin.
- Excre'tion. The throwing off of waste matter.
- Expec'tant. Treatment by leaving disease to nature.
- Extirpation (eks'tur-pay'shun.) Complete removal.
- Extrin'sic. Coming from outside.
- Fauces (faw-seez.) The throat.
- Febrile (feb'ril.) Pertaining to fever.
- Fissure (fish'ur.) A crack.
- Fistula (fist'yu-lah.) A false opening into the soft parts.
- Flatulence (flat'yu-lens.) Gas in the alimentary canal.
- Fœtus (feet'us.) Young of any animal in the uterus.
- Fontanelle (fon'ta-nel'.) Spaces between the cranial bones in the young child.

- Fumigation. Charging the air with gas or vapor.
- Function. The office or duty of an organ.
- Fun'dus. The base.
- Fus'ible. Capable of being melted.
- Gang'rene. The first stage of mortification.
- Gesta'tion. Pregnancy.
- Gland. An organ having the function of secretion.
- Globus hystericus. The sensation as of a ball in the throat.
- Goitre (goy'tur.) Enlargement of the thyroid gland producing a swelling in the front of the throat.
- Gynæcology (jin'e-kol'o-jee) A branch of medicine treating of disease of women.
- Hæmatemesis (hem'a-tem'e-sis.) Vomiting of blood.
- Hæmaturia (hem'a-tew'ree-ah.) Blood in the urine.
- Hæmoptysis (hee-mop'ti-sis.) Spitting of blood.
- Hæmostatic (hee'moh-stat'ik.) An agent to stop hemorrhage.
- Hydragogue (hey'dra-gog,) A medicine causing watery evacuations.
- Hyperaemia. An excess of red corpuscles.
- Hyperpyrexia. Very high fever.
- Idiosyncrasy (id'ee-oh-sin'kra-see.) Peculiarity.
- Incubation. Hatching. The period between the reception of a poison and the appearance of the symptoms.
- In'dolent. Giving little or no pain.
- In'dura'tion. Hardness—swelling.
- Infection. The communication of disease.
- Infusion. 1. The process of steeping a substance in fluid. 2. The resulting liquor.
- In'tus-suscep'tion. The slipping of one part of the intestine into another.
- Irrigation. Regular and continuous washing of a part.
- Irrita'tion. Excess of vital movement, usually manifested by increase of circulation and sensibility.
- Jaundice (jawn'dis.) Yellowness resulting from some obstruction in the course of the bile.
- Laparotomy. Opening the abdomen.
- Lateral. On the side.

- Leth'argy. Stupor.
Ligation. Tying.
Lig'ature. The thread used for tying a vessel.
Lochia (loh'kee-ah,) The discharge of blood and serum following child-birth.
Luxa'tion. A dislocation.
Lymph. 1. The fluid contained in the lymphatic vessels. 2. The fluid poured out in adhesive inflammation.
Malaria. A disease produced by the noxious inhalations from marshy localities.
Malaise (mah-layz.) Indisposition.
Malingery (ma-lin'jur-ee.) Feigning disease.
Maras'mus. Wasting away.
Menorrhagia. Excessive menstruation.
Metastasis (mee-tas'ta-sis.) A change in the seat of a disease.
Micturition. The act of passing water.
Morbid. Diseased.
Morbif'ic. Causing disease.
Mor'ibund. About to die.
Mortification. Loss of life in a part.
Multip'ara. A woman who has given birth to several children.
Naevus (nee'vus.) A birth-mark.
Nares (nay'rees.) The nostrils.
Nates (nay'teez.) The buttocks.
Nostralgia. Home sickness.
Noxious. Unwholesome ; harmful.
Nutrient. Nourishing.
Oesophagus. The gullet.
Odontalgia. Toothache.
Obstetrics. Midwifery.
O'lea'ginous. Oily.
Olfac'tory. Relating to the sense of smell.
Onychia (oh-nik'ee-ah.) An abscess at the side of the finger-nail —felon.
Os'seous. Bony.
Os'sifica'tion. Conversion into bone.
Ovum. The embryo and its membranes.

- Pall'iative. Alleviating.
- Panacea (pan'a-see'ah.) A universal remedy.
- Paracente'sis. The operation of tapping the chest.
- Parasiticide (sit'i-seyd.) An agent that kills parasites.
- Percus'sion. Striking on a body to elicit sounds—as in examining the chest.
- Peristalt'ic. Undulating or worm-like. Applied particularly to the motions of the intestines.
- Pharmacopœia (fahr'ma-koh-pee'ah.) A book giving directions for making medicines.
- Placen'ta Prævia. The attachment of the placenta over the mouth of the uterus.
- Polypus (pol'ee-pus.) A kind of tumor occurring in mucous membranes.
- Primip'ara. A woman who bears her first child.
- Progno'sis. A prediction of the course of a disease.
- Prophylaxis (pro-fi-lak'sis.) Prevention.
- Ptyalism. Salivation.
- Purulent. Having the character of pus.
- Quickening. The first movements of the fœtus felt in the uterus.
- Refrigerant (rē-frij'ēr-ant.) Producing cold.
- Reg'imen. Regulation of diet.
- Regurgitation. Throwing back a portion of the contents.
- Respiration. Breathing.
- Retention. The act of holding or keeping in as the urine.
- Rigor (rey'gawr.) A chill.
- Rigor mortis. A stiffening of the muscles occurring after death.
- Ru'befa'cient. A substance or external application which produces a redness of the skin.
- Rubeola. The measles.
- Saccharine (sak'ur-in.) Containing sugar.
- Salivation (sal'ee-vay'shun.) Excessive secretion of saliva.
- Sat'ura'tion. The union of one substance with another until it can take no more.
- Scybala (sib'a-la.) Hard lumps of fæcal matter.
- Sepsis. Putrefaction.
- Sequelæ (see-kwee'lah.) Morbid phenomena resulting from disease.

- Show. A vaginal discharge occurring just before labor.
- Singul'tus. Hiccough.
- Slough. A dead portion separating from the living.
- Sordes (sawr'deez.) An accumulation of the secretions of the mouth upon the teeth.
- Sporad'ic. Occurring in single or scattered cases.
- Steth'oscope. A tube for conveying sounds from the chest to the ear.
- Strangury (strang'gew-ree.) Slow and painful passage of urine.
- Stupor. Profound unconsciousness.
- Styptic (stip'tik.) Astringent.
- Sudoriferous (seu'dur-if'ur-us.) Sweat-bearing.
- Sutures (sew'chur.) 1. The articulations of the bones of the skull. 2. Stitches for holding together the edges of a wound.
- Syphilis (sif'i-lis.) An infectious venereal disease.
- Tampon. A plug.
- Tetanus, A disease characterized by continuous muscular spasm
locked-jaw.
- Toxic. Poisonous.
- Tum'efac'tion. Swelling.
- Tympanites (tim'pa-ney'teez.) Distention of the abdomen by gas.
- Umbilicus. The navel.
- Ure'a. The nitrogenous constituent of the urine.
- Vascular. Full of vessels.
- Vi'able. Sufficiently developed to live.
- Vis'cera. The internal organs.
- Vis'cus. Singular of viscera.
- Wet-pack. A wrapping of wet sheets in which a patient is enveloped in the hydropathic treatment.

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TESTIMONIALS.

Dr. W. P. Kistler has devoted a great deal of his valuable time and study during the last eight months in the compilation of a medical work, entitled "Practical Medical and Surgical Family Guide in Emergencies," designed for teachers, students, families, the busy practitioner and the public in general—a book for ready reference and instruction on almost all topics relating to physical welfare, both in health and disease. Judging from the prospectus just issued, the effort will meet with great success and net the doctor a substantial source of income.

The book will be sold by subscription only and will contain twenty-six chapters comprising about 350 pages, the manuscript of which is now in the hands of the publishers, Messrs. Berkemeyer, Bechtel & Co., of this city.

That Dr. Kistler is well fitted by extended experience in the practice of his profession to get up such a work there can be no doubt, and in his preface he well says: "Observations during a long and busy professional career have impressed the writer with the belief that a book giving plain directions as to what should be done in cases of disease and of the commoner accidents and poisoning, as well as the means of studying some of the laws that govern and regulate our being, would be of decided benefit, not only to families, teachers, etc., but to the laity generally. It is with such an end in view that this manual is placed in their hands, presenting succinctly but at the same time in a sufficiently comprehensive manner the treatment of the many emergencies which are continually arising in our every-day life."

The book differs very materially from the usual run of family medical works, not only in its plain and practical instruction, but in the manner in which it imparts the most valuable information. His information on physiology, anatomy and *Materia Medica* will prove of untold benefit to the people, and a copy of the work should be in every family. It is provided with a pronouncing vocabulary and all difficult medical terms are thus simplified and easily understood. The work is of such general merit that it will have a ready sale in this community.

—*Allentown Daily City Item.*

For many months it has been noised about that Dr. W. P. Kistler, who for over a quarter of a century has successfully practiced his profession in this county, was writing a book. The prospectus has at last made its appearance, and a careful examination of the table of contents convinces one that much labor and scientific research has been expended in its compilation. The work is entitled "Practical Medical and Surgical Family Guide in Emergencies," and will certainly be a valuable acquisition to any library.

Not only does it differ materially from all other works of the kind heretofore published, but it is written in such a simple and instructive style that it can be read and easily understood by all classes, and on this account is well deserving of public patronage. Dr. Kistler needs no eulogium as to his professional abilities. After so long and successful a career as a family physician he must certainly be fully conversant with the necessary requirements for the preservation of health. The book is dedicated to the Rev. Dr. Horne.

—*Allentown Daily Leader.*

The readers of the *Critic* are no doubt aware that W. P. Kistler, M. D., of this city, has been devoting much of his valuable time to the compilation of a medical work for the laity, entitled "Practical Medical and Surgical Family Guide in Emergencies," accidental injuries, poisoning, their antidotes, etc.

Dr. Kistler has spent much time and gone to a considerable outlay of money in the preparation of this useful work.

It is hardly necessary to say that Dr. Kistler is eminently fitted both by education and by reason of his long and successful practice of the healing art, to write a book of this nature, as he is so well and favorably known in this city and throughout our and the neighboring counties.

He was, however, greatly assisted by a trained nurse, who is also a practicing physician of good standing and a lady of high culture, to whom he acknowledges her valuable assistance.

As a general text book it is a useful publication alike to the busy practitioner, teacher, student and family. The book contains twenty-six chapters, comprising about 350 pages, and forms a text book almost indispensable to families, especially those who are so situated that a physician cannot be easily summoned. It treats elaborately on home nursing and remedies, sick cookery, ventilation and disinfection, and is replete with valuable recipes and suggestions, both in health and sickness.

The *Critic* predicts a large sale for the book, which it certainly merits.

—*Allentown Critic.*

Dr. W. P. Kistler, of this city, has completed his book on medicine, entitled "Practical Medical and Surgical Family Guide in Emergencies." It is a very comprehensive and well written volume full of sound and valuable information, giving plain directions how to act in cases of emergencies before the arrival of skilled professional help, and full of hints on how to take care of your health, etc. Everything is written in a plain and concise manner, so that the veriest layman can understand it. The book is dedicated to Rev. Dr. A. R. Horne by the author.

—*Allentown Chronicle and News.*

CATASAUQUA, PA., AUG. 23, 1894.

DR. W. P. KISTLER :

Dear Sir: I believe your book entitled "Practical Medical and Surgical Family Guide in Emergencies" will prove interesting and valuable to people in all walks of life. First, because of the important topics therein treated, and second, because you have treated these topics in a style that is clear and interesting. I hope the work may have a wide circulation.

Yours respectfully,

T. W. BEVAN,

Department of Public Schools.

ALLENTOWN, PA., SEPT. 10, 1894.

DR. W. P. KISTLER :

Dear Sir: I take pleasure in recommending your book, "Practical Medical and Surgical Family Guide in Emergencies," to the general public, and especially to heads of families, who will find it invaluable in the household.

Having assisted in preparing a part of the work for the press, and so knowing the aim of the volume, I am fully convinced that it contains information not only most essential in every family, but of great use also to the unmarried.

If the advice you give under the various heads is strictly followed, I am confident much suffering will be averted and often a life saved.

WM. J. GRIM,

Formerly Editor Critic.

LEHIGHTON, PA., JULY 26, 1894.

I take pleasure in saying that W. P. Kistler, M. D., was for a number of years the physician in my father's family while he still practiced at Schnecksville, Pa. During those years I had abundant opportunity to convince myself of his medical qualifications. He has had a varied and extensive practice and has always ranked foremost among the medical fraternity. I do not hesitate to say that he is eminently fitted to write such a book as he has just issued—"Medical and Surgical Family Guide for Emergencies." The book will undoubtedly find a large and extensive sale and do a great deal of good. It shall have a prominent place in my family.

JOHN A. KUDER,

Pastor, Trinity Evangelical Lutheran Church.

KUTZTOWN, PA., AUG. 24, 1894.

To whom it may concern: Dr. W. P. Kistler, of Allentown, was for a number of years our family physician and I am intimately acquainted with him. I regard him as a first-class doctor and his efforts were attended with wonderful success. Lately he issued a "Medical and Surgical Family Guide in Emergencies,"—a book which should be found in every home. If properly followed the *Guide* will prove a great blessing to humanity and I predict a large sale for it.

Very truly,

DAVID S. KECK,

Prof. of English Grammar and Literature, Keystone State Normal School.

ALLENTOWN, PA., JULY 12, 1895.

To whom it may concern: I have examined with some care Dr. W. P. Kistler's "Medical and Surgical Family Guide," and have no hesitation in saying that it answers every purpose that the author intended it should. I consider it invaluable in many instances when circumstances are such that medical aid can not be summoned promptly.

As a work containing valuable information on subjects discussed, I am of the opinion it has few superiors.

F. D. RAUB,

Superintendent Public Schools of Allentown, Pa.

ALLENTOWN, PA., AUGUST 31, 1894.

To all whom it may concern: Some time ago I was kindly favored with a prospectus from W. P. Kistler, M. D., of this city, of his estimable work entitled, "Medical and Surgical Family Guide in Emergencies." I gave it more than a passing notice. After I had the work thoroughly reviewed, I was more than pleased with it. It will fill a long felt want.

The book is just what it claims to be and will accomplish that for which it is intended. Its own merits will best recommend it to all who make themselves acquainted with its contents and use it accordingly.

It should not only recompense the Author for the labor he bestowed upon it but every one for the privilege of using it as it is intended.

Yours truly,

J. S. RENNINGER,
Pastor of St. Joseph's Evangelical Lutheran Church of Allentown, Pa.

SOUTH BETHLEHEM, PA., JULY 16, 1894.

DR. W. P. KISTLER :

Dear Sir: After carefully examining and thoroughly digesting the prospectus of your thorough and useful work, "Medical and Surgical Family Guide in Emergencies," I take pleasure in endorsing it.

Without a doubt it is a most comprehensive and desirable work which will not only aid the laity, but will also be of great value to physicians and students of medicine as a work of ready reference. I unquestionably recommend it as invaluable in every household. I am,

Very faithfully yours,

C. EDWARD STOUT, M. D.,
427 West 4th Street.

SENATE OF PENNSYLVANIA, JULY 9, 1894.

DR. W. P. KISTLER :

Dear Sir: I have had the pleasure of examining the prospectus of your medical work entitled "Practical Medical and Surgical Family Guide."

In my opinion the book fills a long felt want. The State of Pennsylvania by an Act of Assembly approved April 2, A. D. 1885, considered the subject of physiology and hygiene of sufficient importance to enact a law making it compulsory to be taught in the common schools of the Commonwealth. The people can not be too well educated in that particular. Your work gives common sense and practical ideas with reference to rules of hygiene and in my opinion the work should be in every household. If the recommendations and suggestions therein contained are carefully studied and carried out, much suffering ignorantly contracted and endured can be prevented. It will be particularly valuable to teachers and instructors who under the foregoing law are to teach physiology and hygiene in the public schools.

Yours truly,

MILTON C. HENNINGER,
Senator 16th District, Pa.

ALLENTOWN, JULY 7, 1894.

During the past year it was my privilege to read most of the manuscript for the work entitled "Practical Medical and Surgical Family Guide in Emergencies." While examining the table of contents and the manuscript, I could not do otherwise than reach the conclusion that a great deal of time and labor were spent in the preparation of said work; and not in vain, for I am convinced that teachers and students of physiology will find this book very helpful. In my opinion it is a volume that should find its way into every household. I bespeak for it a rapid sale since it is worth many times the price.

E. S. DIETER,

Prof. Academic Department, Muhlenberg College.

ALLENTOWN, PA., JULY 7, 1894.

I have carefully examined the prospectus of Dr. Kistler's "Medical and Surgical Family Guide," and find it a work that is sure to fill a long felt want. It is a book that ought to be in the hands of every one who is able to read the English language.

Its language is clear and definite, discarding such foreign terms that can only be understood by one versed in the Science of Medicine.

In order to appreciate the value of the work it must be read. As a hand-book of medicine, it certainly has no equal and merits a very extensive sale. I am yours etc.,

ALVIN RUPP,

Superintendent Public Schools, Lehigh County.

ALLENTOWN, PA., July 7, 1894.

I have known Dr. W. P. Kistler for many years and I believe his medical knowledge to be full and exact. An examination of his new "Medical and Surgical Family Guide in Emergencies," shows him to possess a peculiar talent for writing a work of this kind. The information is comprehensive and the language clear and simple. Arranged for ready reference, it enables one to know instantly what is best to do in an emergency. The book will prove an excellent family manual and deserves an extensive circulation.

L. B. LANDIS,

Ex-Superintendent of City Schools.

ALLENTOWN, PA., JULY 7, 1894.

Among the most trying experiences of the average person in cases of serious accidents and emergencies, is the period of time between the happening of the accident until such a time as the doctor arrives.

To know what to do in these emergencies has often been the means of saving the life of the injured, or at least, of making the sufferer more comfortable and alleviating his severe pain.

Much valuable information on "What to do until the Doctor comes," and on many other subjects, may be obtained from the excellent work entitled—"Practical Medical and Surgical Family Guide in Emergencies," by Dr. W. P. Kistler, a practicing physician of Allentown, Pa.

The book is written in plain English and in such a style as to be intelligent to the average reader.

Judging from the prospectus, the table of contents and the very large number of the most practical subjects treated, I predict a very large demand for the work.

It is a useful book for any person and for every family.

J. O. KNAUSS,
Ex-Supt. Public Schools, Lehigh County.

LITZENBERG, PA., JULY 6, 1894.

DR. W. P. KISTLER:

Dear Sir: I have carefully examined the prospectus of the work published under your name entitled "Medical and Surgical Family Guide in Emergencies," and am pleased to say that I was very favorably impressed by the thorough and explicit manner with which you present the many different diseases and their thorough treatment. The book certainly merits a large sale, and should be in the possession of every family able to read the English language.

A. P. FETHEROLF, M. D.

HOUSE OF REPRESENTATIVES, HARRISBURG, PA.

It is with pleasure that I recommend to the public in general the very valuable work of Dr. W. P. Kistler, entitled "Medical and Surgical Family Guide," on account of its real merit. The book is replete with information of a nature indispensable to every family. The work contains twenty-six chapters, each of which alone is worth the price of the book. In the case of accident or other emergency, its value must be measured by the estimate we place on life, health and comfort. I have had the pleasure of reading a large part of the manuscript, and feel safe in saying that a subscription for this work is money well invested.

MILTON N. BERNHARD.

ALLENTOWN, PA., JULY 6, 1894.

I have examined the advance sheets of Dr. W. P. Kistler's forthcoming work "Practical Medical and Surgical Family Guide in Emergencies," and have found the same very satisfactory. The work will fill a long felt want. It is written from a common sense standpoint by a physician of long, time experience, who knows exactly what is necessary for the bulk of the people. That this book will be worth many times its price in the hands of every one, I have not the least doubt. It should be in the hands of teachers, parents, and men and women everywhere, and I most cheerfully so recommend it.

A. R. HORNE,
Editor of National Educator.

ALLENTOWN, PA., JULY 9, 1894.

DR. W. P. KISTLER:

Dear Sir: Having read a portion of the manuscript used in the make-up of your "Family Guide" and knowing your ability in the line of the healing art as shown in the treatment of myself and family, I am not at all surprised at the meritorious features of your production, and bespeak for the same a sale beyond your most sanguine expectations.

It is a work that I believe should be in the hands of every family, especially in those where parents take an interest in the physical improvement of their children.

Respectfully yours,
A. J. ZELLNER, of Zellner Bros.

SECOND NATIONAL BANK, Allentown, Pa., July 9, 1894.

DR. W. P. KISTLER, M. D.,

Dear Sir: I have examined with more than ordinary interest the prospectus and advance sheets of your new work, "Practical Medical and Surgical Guide," intended for the instruction and guidance of the family in emergencies.

It gives me pleasure to express my admiration for the intelligent and comprehensive manner in which the work has been done.

As a "Family Doctor Book" it will fill a place in the home library, the want of which at times, would be worth many times its price.

Very respectfully yours,
WM. H. AINEY, *President.*

DR. EUGENE M. KISTLER,

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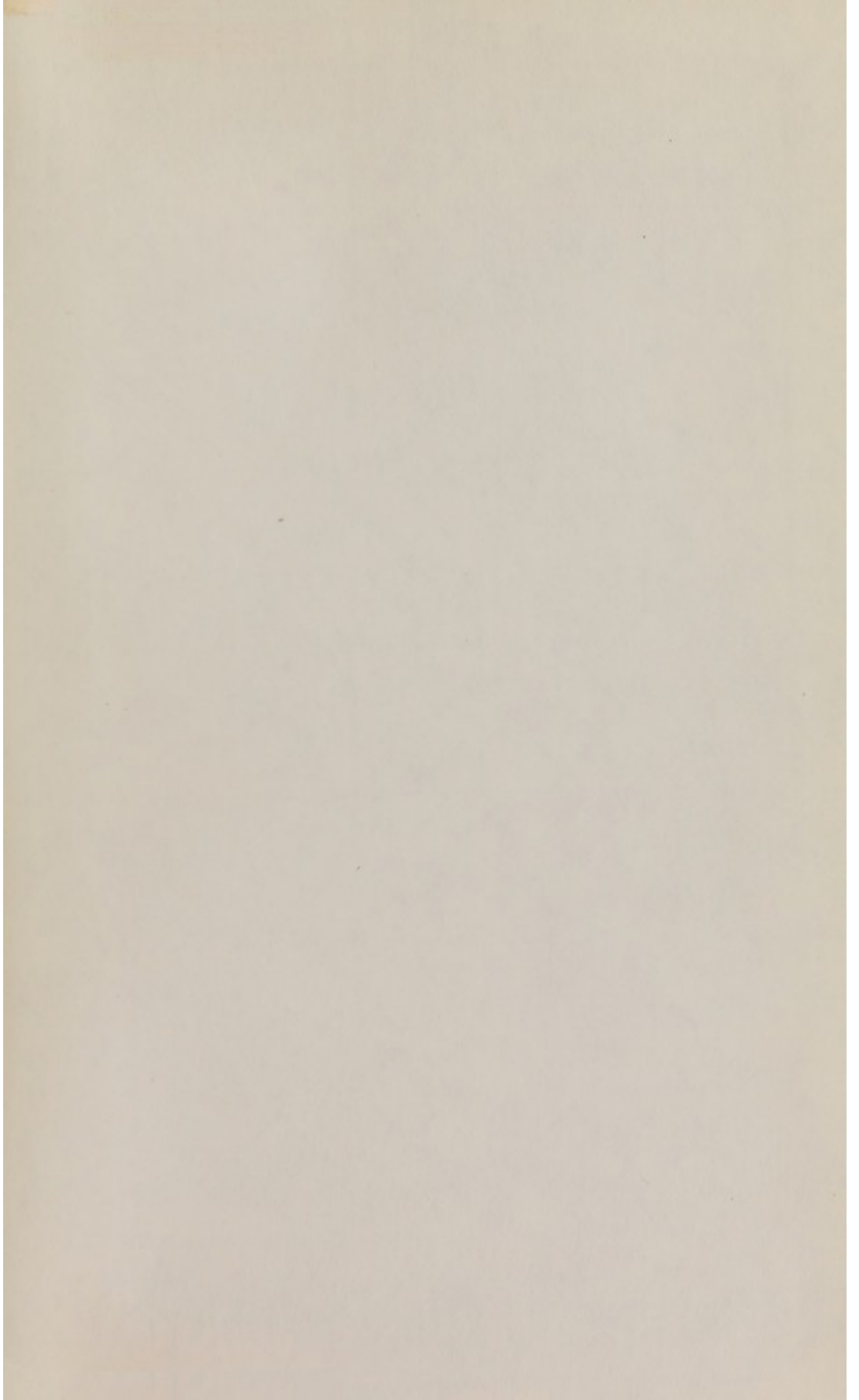
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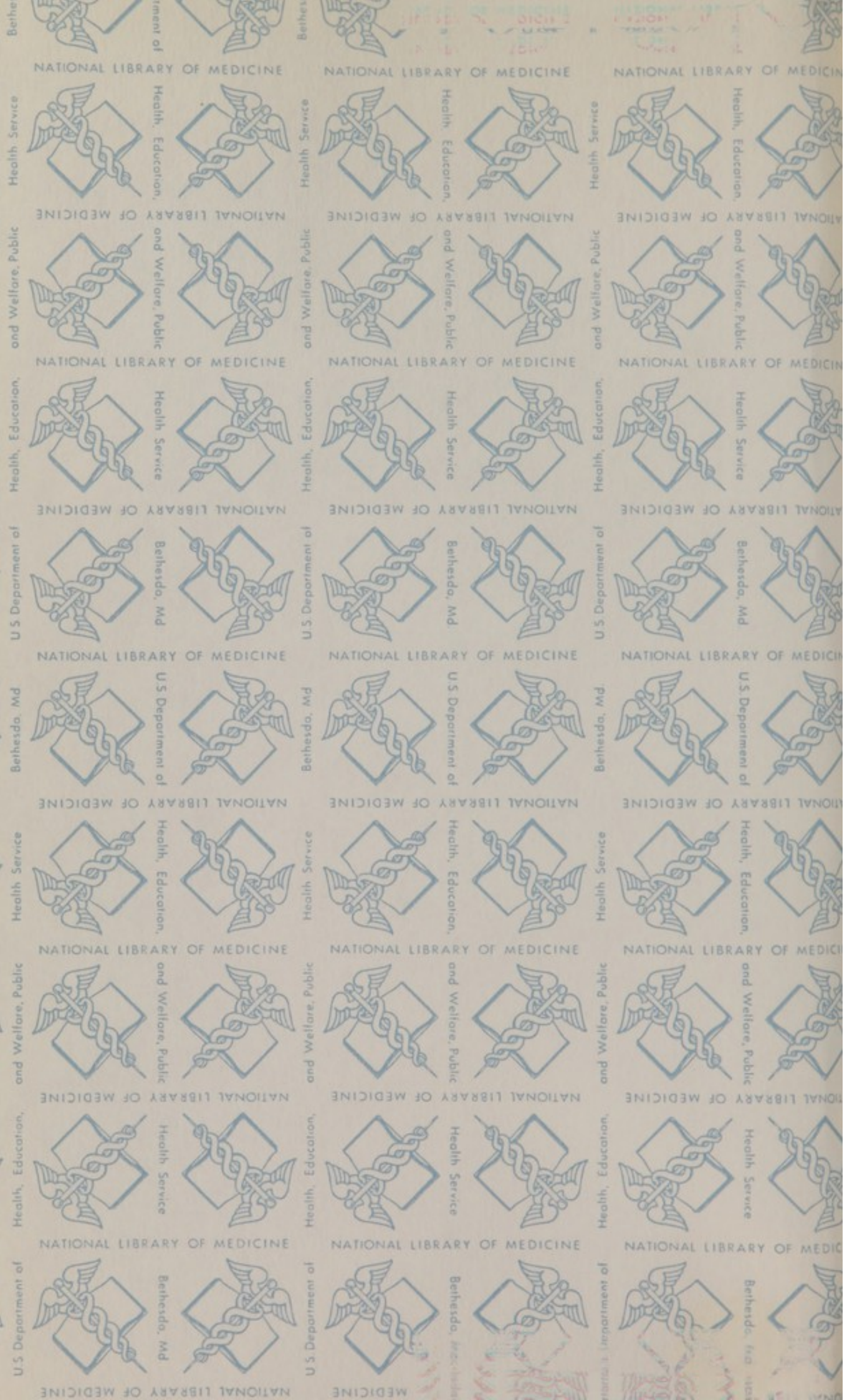
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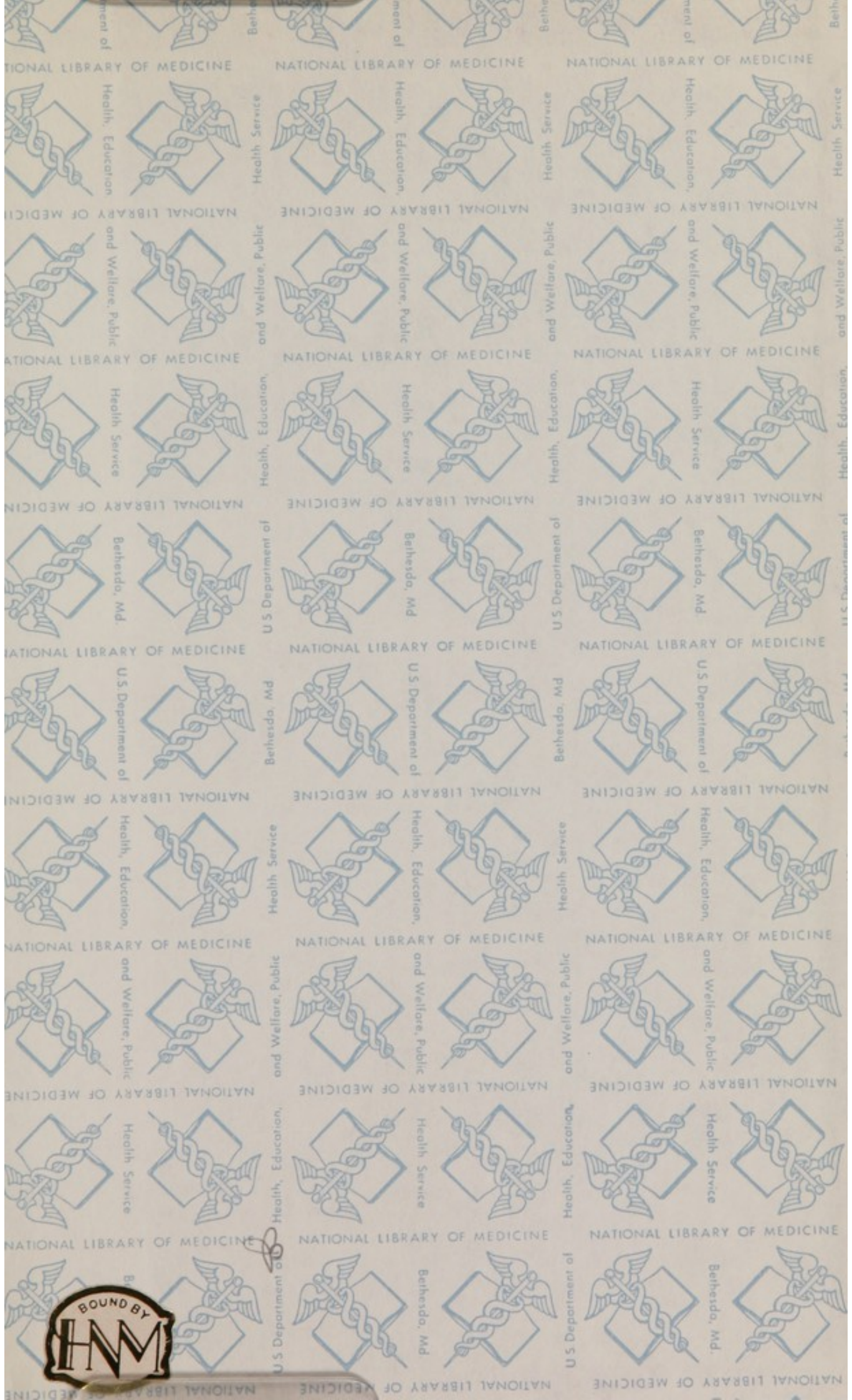
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