

placed on temples, vibrate rapidly all around in and on temples for several successive rapid movements, dropping thumbs on forehead at the same time and rapidly rotating over every part of the forehead. That done, drop thumbs on either side of the nose, pull them upward and outward, crossing the supraorbital notch, ending that move on the forehead above superciliary ridge; then place the thumbs at lower outer angles of nostrils on either side, pressing gently, follow angle of malar bones downward and outward two or three times, winding up that movement with vibratory movements on side of face, and on either side of nose, and finally placing thumb on one side and spread-out fingers of hand on side of nose, index finger and the end of the thumb placed deeply in inner canthus of eye, pressing on the papillae, and holding thumb and finger so as not to squeeze together hard, nor to spread apart, with a sudden downward pressure make finger and thumb ends press upon inside of canthus on lachrymal sack, so as to stimulate nerves and blood vessels. This done, place one hand on forehead of patient standing at the side of the table, with the fingers of other hand cupped slightly, ends close to spinous processes, with a pushing of head from and a pulling of fingers toward operator, letting fingers accommodate themselves to the side of neck in such a way as to apparently pull the skin, with the muscles, from their moorings, as the head is pushed in the opposite direction. Manipulate all of one side of the neck thusly, then treat other in the same way.

The clavicles deserve our next attention. They should be raised or pressed outward at every treatment, as the contraction of the various chest muscles—contraction of—draws them downward, so as to unduly press upon important vessels and nerves, prominent of which are the jugular veins, which convey the blood from head and neck to the heart. To raise clavicles and stretch muscular fibers involved is important, and to do so requires a little skill and dexterity on the part of the operator. The easiest and surest method is to

stand at the side of the patient, his arm lying at the side of the body, the operator taking hold of the arm at the elbow with left hand applied on under side of, and at the lower end of humerus, in such a position as to push the whole arm upwards, close to the side of patient, far enough to displace the clavicles upward enough for operator to place fingers of other hand between clavicle and first rib, and with a firm hold, presses the arm outward and upward to a right angle of the body, gently pulling on the fingers, with which hold the clavicle from body. Care should be had as to how much pressure should be used, not to overstretch the attachments at one sitting. Now the patient is to turn on either side; the operator, on side of table facing patient, well up toward and opposite shoulders, takes hold of the wrist with one hand, placing the fingers, gently curved, on the side of dorsal vertebrae (upper side of them, next to operator), then, with arm extended to the side of the head, assuming an easy position along side of the head, a simultaneous move of both arms is to be made, the sudden pressure of the pulp ends of the fingers of the hand against the back is to be made, and at the same instant the arm is to be extended, and the arm and fingers against the back are to be held taut while the extended arm is thrust or brought downwards with a sudden, rapid move over arm of operator; then, drawn back as before, and the fingers moved down the back an inch or two, repeating this move until the spine is treated as far as to tenth or twelfth dorsal. Then the other side is to be treated in like manner. Then the patient is to lie on the back, and the lower limbs manipulated in the following manner: Let the operator, standing at the side of the table, with patient on back, take hold of the leg with one hand, just below the knee, flex the leg on the thigh, place fingers against loin in such a manner as to press firmly, then press the limb toward abdomen, knee pointing toward the chin, and with an upward, outward motion of the leg and knee manage to press the body over on the ends of the fingers, which are placed on the back, as aforesaid; and continue this

move several times, bringing the fingers on the back downward an inch or two each rotary move made by the leg, coming down with the fingers about half way between the ischium and great trochanter, and then go up to same place on lumbar, and repeat the moves. This frees the muscular system in the region of the hips, and is the treatment for sciatica—one of them. The leg should be flexed upon the thigh and the thigh on the abdomen moderately two or more times, so as to stretch the muscles and increase the flow of blood, taking off the pressure from the deeper veins of the thigh. While at this part of the body, and as a continuation of the general treatment, let the operator take hold of the leg at or just below the knee, flexing it toward the abdomen, with the fingers of the other hand placed near the center of the anterior part of the thigh, one or two inches below the angle (Poupart's ligament), holding fingers moderately tight against thigh at that place; with the hand holding the knee push the whole limb upwards, gently rolling it outward, and at the same time pulling the skin and deeper structures outward (in the femoral region), opening the saphenous vein, so as to let the venous blood return to the femoral, thence to the iliac veins. Then, still holding the knee with one hand, place the half-closed fingers of the other hand near the knee, on under side, so as to pull the muscles as the hand on the knee pushes the knee the other way—toward the other leg. The muscles of the inside of the thigh may be moved from the knee to the thigh this way, and all of these muscles should be moved in this, or any other manner best suited to the circumstances and the mood of the operator and the comfort of the patient. The other limb should be treated in the same manner. Now your patient is ready to be placed upon the face, unless the liver needs attention. If so, treatment may be done while on back, as directed elsewhere. The patient lying on the stomach, or face downward, the operator may treat the back in either or all of the following ways: Getting up on the table on one knee and other foot on the table, at the side of the patient,

taking hold of the ankle of opposite limb with one hand, the other hand placed on opposite side of the spinous processes, heel of hand against muscles, raise leg, gently pulling it toward the back, forming a curve, at the same time pressing against the back, beginning about the middle of the back; let each move be made complete, letting the foot down each time, and repeat this move a number of times, moving the hand down the back its width each move until all of the lumbar and sacral regions are treated. The same moves may be made with the finger and thumb embracing each side of the spinous processes, covering same territory or region of the back. This should be repeated on the other side, with other limb as well, being careful not to spring the back too strongly, so as to do harm. The springing or sudden pressure with the fingers on the sides of the spinous processes may now be made along down the spine, from the first to last dorsal and lumbar vertebrae, with sudden, springy motion with both hands, followed up by the rotary movements upward and outward, beginning at the shoulders or the sacrum, depending on results the operator desires. This will be referred to in the body of the book. This constitutes the general treatment while the patient is on the table. The various movements that are to be made while the patient is sitting up may be made at same sitting, if needed.

SPECIAL MOVES FOR SPECIFIC RESULTS.

During the general treatment, regard should be had for special ailments. Many of the various conditions or pathological conditions of various parts of the body may be remedied or treated while the patient is on the table and during the administration of the general treatment; such as the treatment for eye affections, ear and throat, lungs, heart, asthmatic, pleuritic, liver, spleen, diarrhœa, flux, womb and bowel troubles. The choice of positions is not so essential as the correct application of manipulations, the proper pressure in

the various parts of the body, the intensity or non-intensity of the treatment. These should vary according to the condition, stage of disease, susceptibility of patient to the handling the various parts of the body. These things should be largely governed by our knowledge of the condition of the patient, which is a matter of no small consequence to both patient and operator. The treatments should be varied according to circumstances. Some patients should be treated as often as every day, others three times a week, and some twice a week, others only occasionally. Many pathological conditions yield at one treatment; others require longer or shorter courses of treatment. There is a prevailing idea with some that Osteopathic treatment is so marvelous in its results that all diseases succumb thereto at once, because a few conditions are so suddenly relieved thereby. Regarding Osteopathy as a wonderful means of treating the body for the various pathological conditions that we often find in it, there should be the necessary amount of common sense used as to its applicability in any given case, just the same as in every other system of healing, and we should not lose sight of the stubborn fact "that man is born to die" some time, and that some diseases, especially some stages of some diseases, are invulnerable, yield to no sort of treatment. Our means seem the most rational of any that we know, and have a greater range of applicability than any other; and Osteopathy possesses such varied resources that it stands alone as regards versatility, positive effectuality in many instances that almost approaches the miraculous (a little short of the Divine power itself), and being natural, can justly be classed in this category—rightly understood and applied. The opposition to its use is justly attributed to a want of understanding of it on the part of the people, as well as the doctors. It, like every other measure of merit, is working its way along the lines of approval, and growing in interest and favor wherever its benign influence is felt, so that it will be fully

recognized in due time without the acts of public approval through legislative bodies, for the cured will tell it everywhere, and the benefits will not be "hidden under a bushel," but blazoned forth like the genial rays of the great shining orb, the sun, at noonday, gladdening the hearts of the people, sick and well, wherever known. This is no dreamy prognostication, for it is already able to walk alone, and soon to lay aside its swaddling garments and don robes more elaborate and more attractive. All it needs is to be properly understood and rightly applied, and it opens up the flood-gates of life and lets the vital fluids run in their wonted, normal channels—then life flows on as a river.

GENERAL TREATMENT NECESSARY.

There are some manipulators (Osteopaths) who regard certain moves for local affections sufficient, and hastily make these moves, and move the patient at once, having done but little, if any, good for the patient. Rest assured that when an operator does so, he is either ignorant of the conditions governing the case, or indifferent as regards the consequences of treatment, or both. In order that Osteopathy receive the approval of the people, honest, intelligent manipulators should administer it. The automaton who has only learned a few moves, relieved a few pains, is illy prepared to become a competitor or a rival of medical practitioners in any community, after the people learn the caliber of his intellectuality. The very words of such an individual indicate his ability, his knowledge of the human system, and as was said to one many centuries ago: "Out of thine own mouth will I condemn thee." Any new science must have intelligent expounders and thoroughly posted representatives, honest, upright demonstrators of the truths of the science. The extraordinary superiority of this science can be made to stand out in bold relief when properly presented by the right sort of intelligences, men or women, or both. A knowledge of the medical

sciences is not an essential prerequisite to a knowledge of this science, but the operator should have a fair knowledge of anatomy, physiology and pathology. Knowing these three divisions, including the knowledge of normal or abnormal structure, as well as the offices or functions of the various organs of the body, and being versed in Osteopathy, he or she is prepared to adjust the system to itself much better, more easily, surely, satisfactorily than has been done by other systems, including medical, massage, Swedish movement, *et al.* The reader will not be misled by our assertions into the idea that we ignore surgery or the tissue elements. Our position as regards the tissue elements may be seen elsewhere in this work. We would emphasize our estimate of the necessity of practitioners of this science being honest in understanding it, honest in applying it, and honest in stating what may reasonably be expected of its application in relieving the afflicted. Whilst our object in writing this book is to make plain and comprehensible the science, so that the ordinarily intelligent may thoroughly comprehend its philosophy, we would not be understood as willing to relegate its use wholly to that class of practitioners, for we are satisfied that the medical profession, with ordinary mechanical skill, with their general knowledge of pathology, will be the better able to utilize it to greater and much better advantage, and are further satisfied that persons about to learn this science with anatomy, physiology and pathology before mentioned, will concede our right to that opinion, and go to some school of their choice, where the other sciences are thoroughly taught, and learn them, whether they ever have occasion to use them or not. It pays to know what the other fellow knows, so as, should occasion require it, to know how to use intelligent argument. Be posted!

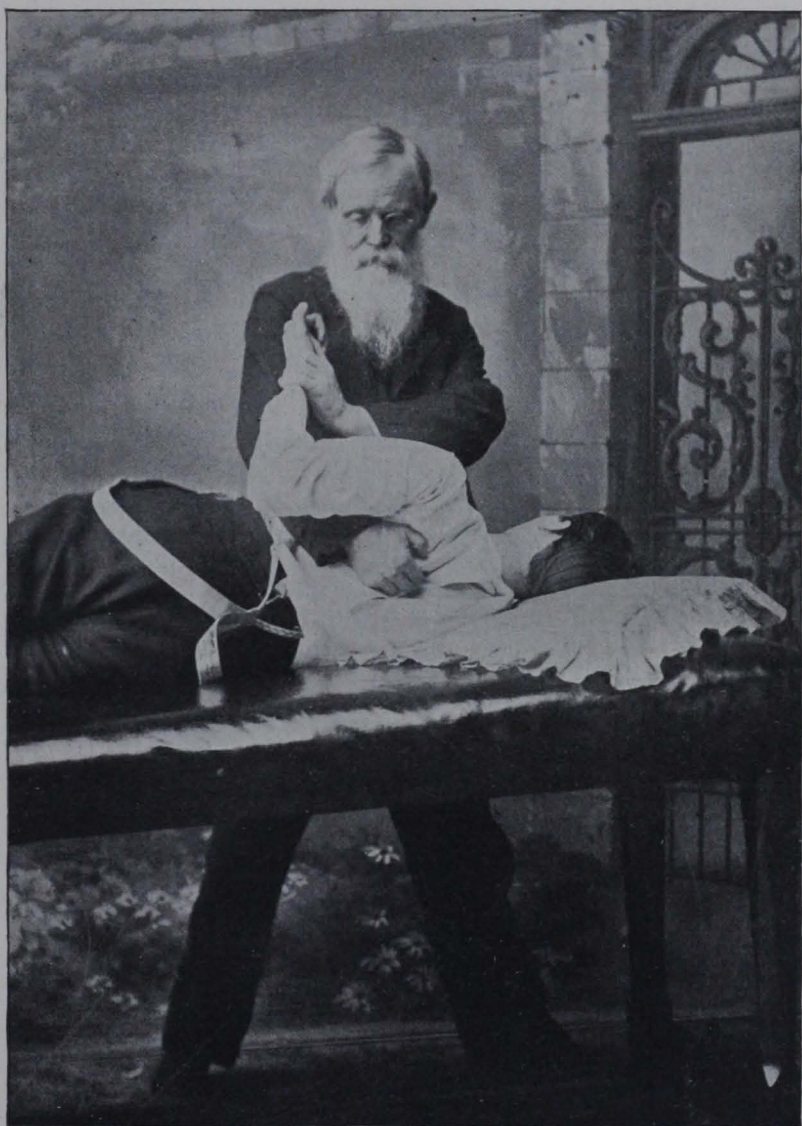


PLATE XIV.*b.*—Continued Arm Movement.

Wm L. Felt
1780

SPECIAL TREATMENT.

While the illustrations in the body of this book represent almost all of the manipulations requisite for the treatment of all sorts of ailments, in that they explain how to free the circulation and to take off the pressure, yet we would add a few remarks in reference to special treatments. It will not be necessary to go through with all of the manipulations at one sitting, and the operator must exercise his or her own judgment in regard to what treatment is required in any particular pathological condition. The thorough treatment of the muscles of the neck will be required most generally in all conditions found anywhere, for here we start to free the vital fluid that is often the cause of disease in other parts of the body; for here are the beginnings of cervical influences that, if not free, are exercised in other parts of the body. Here we find the cervical ganglia, which distribute fibrillae to many important organs, and life's forces are modified very largely by the conditions found here. The brachial plexuses are found here, and the office of the nerves coming from this portion of the neck is more frequently interfered with here than at their distributed portions. The pneumogastric and phrenic nerves are reached here, as well as the spinal accessory, and here we have to do in opening the gates of important veins that, being partially or completely closed by muscular contractions, impede the return of blood to the heart, causing catarrh, headache, eye, ear, throat and nasal congestions. The directions for the treatment of the neck will be found to be important in all cases where freedom of circulation is involved, and to stimulate other parts through nerves passing through this part of the body to others, and very frequently a pain or a diseased part may be relieved by simply knowing its nerve supply and lifting the pressure from it in the cervical or brachial region.

If we could write in glittering letters of flame, so as to emphasize the motto, "Take Off the Pressure" everywhere,

the reader would understand the importance of our philosophy being carried out. This is all there is in Osteopathy, and all there is in the treatment and the cure of all curable diseases. To repeat each move to be made under the different names of disease is to presume the operator is incompetent to comprehend a direction once given. We wish it distinctly understood that we reach all parts of the physical man through the organic nervous system, and we do this by the stimulation of terminal nerve filaments. At the same time there is an influence had in the direction of adjustment of the system to itself, in cases of luxations, either from contractions of muscular fibers or direct violence. These must be looked after, and righted, whether at once or repeatedly manipulated, depending on conditions.

There will necessarily have to be frequent references to illustrations of moves, so as to make familiar the means used to accomplish certain results, and familiarize the reader or student with the various manipulations necessary to accomplish his purpose.

After freeing all of the muscles in the cervical and brachial regions, respect is to be had regarding the clavicles. They should be raised so as to take off the pressure of important blood vessels and nerves, and especially the venous system, for here all of the diseases that affect the head and throat most generally originate. All headaches, mouth, throat, chest and arm troubles, as well as heart and lungs, must be influenced by treatment here. Diseases of eyes and ears, in fact, of all above the clavicles, are caused by impediment to the return circulation of blood through the jugulars. The blood and the lymphatic fluids accumulating in the cervical region press upon the terminal filaments of the sympathetic nerves in this locality, preventing their action, their connection with the terminal footlets of the motor nervous system; action ceases, fluids accumulate, chemical changes at once set in, the pent-up poisons increase, and every evil possible ensues; whereas, if these veins had not been unduly pressed upon, and the blood

had been allowed to pursue its normal course undisturbed, no evil would have occurred. The very moment the pressure is removed, amelioration begins. This is the marvel of this science: simply to know how to remove the pressure does the work, if done.

We go on down the spinal column, lifting off the pressure, stimulating terminal nerve filaments, using the bones as our levers and the body as a weight, and our hands, thumbs and fingers as the fulcrums in lifting off the pressure and adjusting the system to itself, seeing to it that every bone, muscle, nerve and tendon are in proper condition and performing their natural function in the whole body. We find contracture of the chest muscles, as well as the intercostals, interfering with venous circulation, and that requires our attention, all along the dorsal region, and as they are especially concerned in the respiration, and respiration is necessary to the purification of the blood as it passes through the lungs, we must keep pressure off here, or take it off when existing here. We begin to understand the use of arms as levers to remove the pressure. Hence our instructions in regard to how to move the arms, where to hold them, when and how to manipulate them in the treatment of all diseases of the chest, embracing heart, lungs, liver, spleen, stomach and viscera.

As we descend into the lumbar region, we find important points which demand our most careful and special attention, for here, right at the junction of the twelfth dorsal and first lumbar, are fibers that, stimulated, reach the kidneys and correct many pathological conditions that other means fail to do. The second lumbar vertebral ganglia are important in that there are nerve fibers reached here that control the genital organs and the muscular tissue on the thighs and legs. Proceeding downward to the next, or third lumbar, we reach filaments that control the gluteal region, and continuing down to the fourth and fifth, we reach regions of vital importance to the patient in the treatment of diseases of the pelvic viscera, and affections of the leg muscles.

Each and every department of our body is supplied with nerve filaments that come from the brain, and we can only influence them through sympathetic filaments, so that it becomes a matter of great interest to the manipulator to regard proper starting points if good is to come of the treatment. A haphazard sort of manipulation may result in benefit, but it is better to know how to do the work intelligently, then we have the satisfaction of commanding the situation. The correct knowledge of how to make these moves we call Osteopathic manipulations becomes vitally interesting when important pathological conditions involving the life or death of the patient are considered. Much depends on the knowledge of the manipulator, and the how he does it, to produce the changes that are imminent in certain stages of some diseases favorably. Our battle ground, then, is the whole man. The freedom from the enthraldom of pressure everywhere is the work of the Osteopath. The hands, fingers and arms execute his will power in every given case, and his knowledge influences his will power correctly or incorrectly, as his understanding is of the conditions and means of relief he possesses.

The effect of manipulations depends largely on how they are done.

The hardness or softness of the muscular tissue has much to do in results, for some are affected easily, requiring light treatments, which would be injurious if more strength were applied, whereas some stand strong, vigorous treatments. Then again, due regard must be had as to time the treatments shall continue, whether for chronic or acute affections, the frequency of, nature of disease, its duration, character, whether it involve one or more organs, vessels, and how conditions of tissue involved are at the time. The demand for the exercise of good judgment is as great in this science as in others, and it is presumable that the manipulator shall have studied anatomy and physiology, and whatever else enters into a knowledge of the human system, ere he goes to work at this science as a manipulator, to be successful. Results may

follow these treatments, done as recommended, and help may be necessary at once, and this would justify any one qualified to render it, but we surely would recommend careful study of the human system before a general practice of this system be entered on by any one. It is not necessary that long years of study of the sciences should precede the practice of this science, but it is essential to know this to successfully practice. This book will teach all that is discovered in Osteopathy up to this date. We are not presumptuous enough to recommend our book as a text-book, but verily believe that in it will be found all that is known of the science in its application to all diseases.

VARIOUS MOVEMENTS IN DIFFERENT PATHOLOGICAL CONDITIONS.

The many manipulations described and shown in plates might be greatly multiplied, but these serve to elucidate the principal ones necessary to the successful treatment of almost every pathological condition known.

The practical common sense of the operator in the application of the manipulations to the end desired, or object to be attained, is an anticipated desideratum that is as essential as the various moves are in the removal of obstructions needed in the treatment of patients diseased with any and all sorts of ailments, and in the different parts of the body.

There are many similar conditions in many named pathological states that should receive similar treatment, and the reader of these pages will often wonder why one or more plates are referred to for treating diseases differently named. This will appear quite plausible when it is considered that obstructions to the circulation cause very different results. It would take volumes to explain why this is so with all of the various pathological conditions with which humanity is afflicted. To make it plain, we would offer the following explanation, which will be sufficient to elucidate the matter

of similar manipulations for different diseases. Sore throat and diphtheria—these are supposed to be different pathological conditions, both involving the same region (the throat), and yet the same throat treatment is used in the one as in the other, varying only in time, pressure used, and vessels to be manipulated, which to the observer seems to be the same treatment. Scarlet fever and erysipelas are other examples seemingly treated alike, resulting differently, because the pathological conditions vary, yet the very same blood vessels are involved in one as in the other. Our treatment is not the treatment of the *name* of a disease, but the *condition* of the part affected.

The Osteopath regards disease as the result of obstruction, and the obstruction removed, removes the cause, whatever the name of the pathological condition may be. Treat John as you would James, if both have the same condition, regardless of their names. The treatment may embrace more of the system in the one case than the other, because other organs may be involved, requiring different manipulations. Obstructions anywhere in the system produce effects according to structure involved, and due regard must be had to this matter, or the Osteopath runs into the same state as most other practitioners do—that of a “Routinist.” Each and every move made starts forces that are effectual for good or ill, depending largely on locality, structures involved, etc. The Osteopath has learned when, where and how to apply these forces to produce such marvelous effects as are often the result of his “magic touch,” as is at times ascribed to him. There are vulnerable points in our systems, which, if attacked or properly influenced, make us ecstatic or lull us to sleep, produce pain or relief.

TABLE FOR CONVENIENT TREATMENT.

The table should be solid, heavy enough to hold any weight desirable, made of good, sound timber. It should be thirty inches high at one end, twenty-six at the other, twenty-six to thirty inches wide, and covered with a good three-inch mattress, or upholstered, with an elevated pillow-like prominence at the highest end, for the head of the patient to rest on while being treated. All this should be covered with good oil-cloth or pantasot. Oil-cloth is more satisfactory, as it is easier kept clean and does not mark so easily. The table may be level—twenty-six inches high—provided with a hinge joint about two feet at one end, and provided with a ratchet half-circular (notched brass casting), so as to raise the head to any elevation desirable. (This will cost a couple of dollars more, but it is convenient for use in every way.) As it is necessary in the treatment of some chronic cases to get up on the table, it is proper to have a good, strong, wide table, and we would advise one that is substantial.

SPECIAL INSTRUCTIONS AS TO MANIPULATIONS.

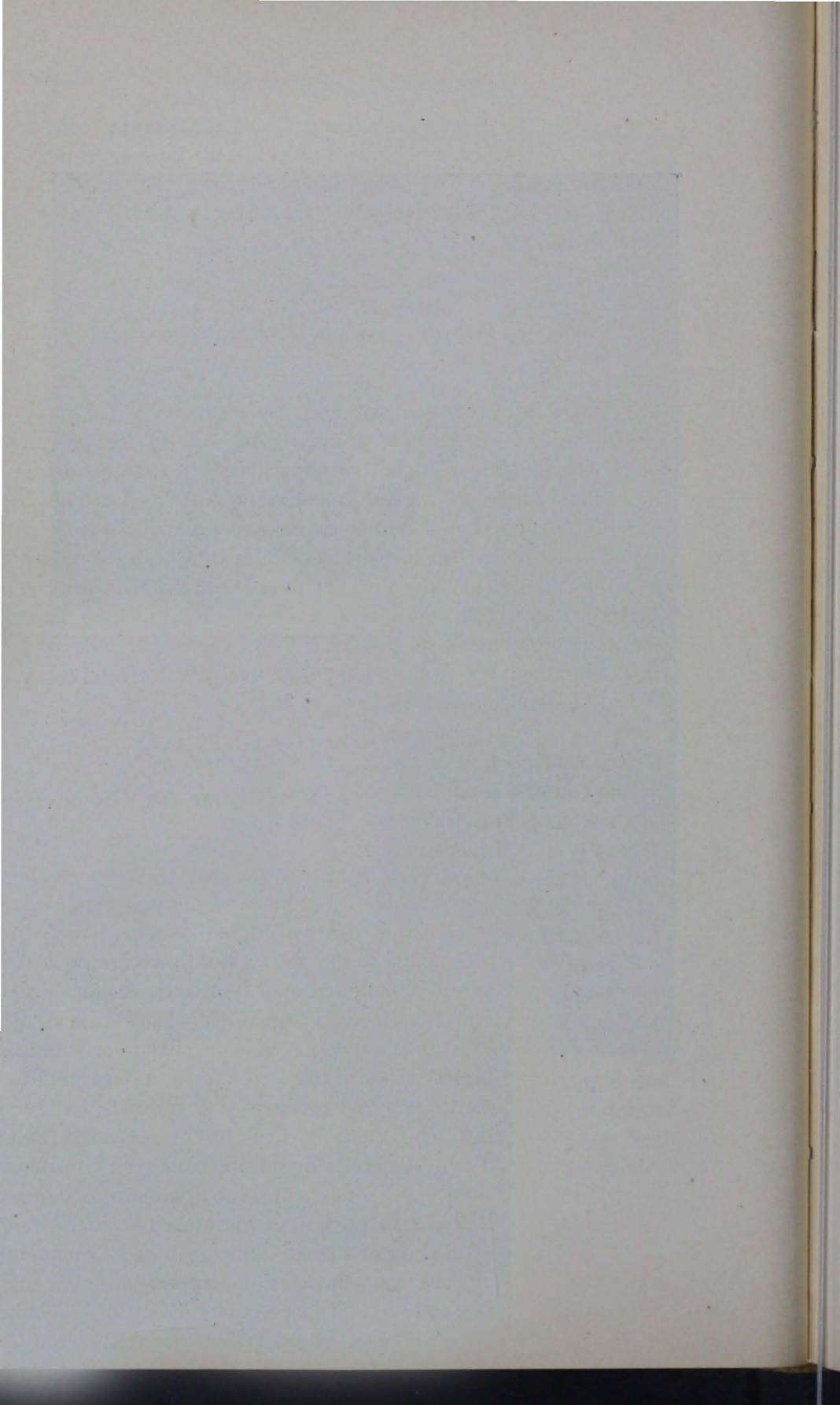
It is said that "there is no excellence without great labor," and that if anything is "worth doing, it is worth well doing," and it is most emphatically so in Osteopathy. The manipulator should be thorough in every treatment for every affection, for the manipulations have to do in starting forces that change the conditions radically in the parts manipulated as well as in the parts to which the nerves are distributed. In nearly all treatments we start to treat the cervical region, for this locality is the nearest the starting point of all of the forces in the body, and here the gateway to every other department in the physical economy opens, and here we have more to do in controlling nerve force, regulating the circula-

tion of the fluids of the body, and removing obstructions that interfere with the return circulation from the brain to the heart. The manipulation of all of the muscles of the neck should be thoroughly done, beginning lightly, and gradually stirring up and moving not only the superficial, but all of the deeper structure on all sides of the neck until all are rendered normal, as nearly as may be at one sitting. This done, properly, the vaso-motor nerves as well in the upper and posterior portion of the cervical region properly stimulated, and the neck and spine stretched and neck adjusted in the act of stretching, and then the clavicles raised, the congestion begins at once to give way, and the life-forces start up, and already the patient begins to improve. It is not necessary to be rash in any of these manipulations, but persistence and patience, with carefulness, bring about results that are almost universally satisfactory. All of the various throat affections yield to this sort of treatment without fail, if properly done, and pent-up fluids that are producing pressure that prevents the nervous system from performing normal functions, pass on through normal channels; the pain, redness and swelling cease and relief is at once secured; whereas, medicating for such conditions fails to give relief, from the fact that relief comes from taking off the pressure. Whatever condition of an abnormal character is found to exist in this region, relief may come readily by the careful, thorough manipulations, as directed for this part of the body.

The whole cause of disease in every part of the body being *obstructed circulation*, the treatment rationally resolves itself into a *restoration of the circulation* to a *normal* condition. Results can not but be satisfactory when this is done. The trouble is, the people have been so used to depending on medication that they *won't see* any other way. It makes no difference how many failures they have seen or experienced, *no other way seems right* to them, and many are so prejudiced against using means different from what they have been accustomed to, they would rather risk its evil consequences



PLATE XV.—Treatment of Back of the Neck.



than resort to means that compromise their prejudices, or turn them from beaten paths, however glowing the promise of better results. Prejudice will be overcome in time to convince some that now live of the truths of the philosophy we now teach.

DISLOCATION OF BONE—CAUSE OF.

There is a great deal said about dislocations of the bones of the human system, and a passing by that subject in this book would be considered osteopathically non-professional and unfair, therefore I would most respectfully call attention to the subject and endeavor to explain what Osteopaths (who know Osteopathy) mean by "dislocation of a bone." When it is considered that all muscular fiber is elastic, to a greater or less extent, and that the bones are held in place by ligamentous structure, and that muscles are generally attached to the ligamentous structure (and that to the bone or bones), it will be readily understood that the contraction of the muscular fibers renders taut the ligamentous structure; and in case a particular portion of the muscular fiber attached to the side or the end of a small bone, a rib or a flimsy joint, or even one of the strong muscles, contracting, draw a large joint out of, or partly out of place, and the end of the bone press unduly on a nerve or blood vessel, the results may be imagined—pain, paralysis, or pressure on a vein, artery or a lymphatic, or numerous fibers of either, the morbid results may be easily conjectured. This condition is often seen when the facts become apparent to the physician that such a state of affairs is possible. But the profession are wont to ridicule the idea of a dislocation of a bone, unless it is clear out on the side of the body or lifted entirely from its fellow, and becomes prominently apparent to even a distant observer! The prejudiced do not see anything only in their "own way." We respect-

fully ask a careful consideration of this subject, without favor or affection. Let facts be the ruling element in this discussion and results will be satisfactory. Those who assert that dislocations can not occur gradually, will please account for spinal curvature on any other principle. That a gradual shrinking of muscular fiber causes most all spinal curvatures, the observations of experts demonstrate to be true. If a back bone can be drawn sidewise, why can not a delicate, fibrous, surface articulation (as, for instance, a rib) undergo that sort of a transformation? These are so palpable that no one need be misled in the matter. Every bone in the body may be distorted, and its normal relationship distorted. This being the case, there is truth in the assertion that "A partial or complete dislocation of a bone or muscle is largely responsible for many of the pathological conditions that flesh is heir to," and "becomes a prominent factor in their production." It will yet be acknowledged that muscular contracture is largely responsible for the numerous interferences of circulation of blood and other fluids of the body, and the large majority of the pains that humanity endures. We feel assured that right here is the starting point of pathological conditions that demand our most serious and careful consideration. It not infrequently happens in the experience of Osteopathic practice that simply on the adjustment of a rib, and that, too, of one that has escaped the notice of eminent surgeons, by a slight movement, all pain at once ceases. This is most strikingly seen in functional affections of the heart, in the raising of the clavicle, stopping the whole trouble instantaneously!

EXAMINATIONS.

When it is desirable to make a thorough examination, a state of nudity will be the condition most suitable, although that is not absolutely necessary; a thin garment worn is admis-

sible, and will not interfere with manual examinations. Begin with the neck, and examine whether all the cervical vertebrae are in line, whether one or more bones are distorted, whether one or more muscles are drawn or contracted, producing pain, drawing across important bloodvessels, nerves or lymphatics, or whether unnatural mobility is perceptible; whether the clavicles are drawn down by the contracture of the subclavicular muscles; whether the ends of clavicles are properly articulated; whether the arms are equally poised, and whether the spinous processes are in line; whether the ribs are smooth and regularly arranged, at equal distances from each other, and not drawn together on intercostal veins, that empty their blood into the vena azigos veins; or whether the ribs are not unduly pressing upon the pleura or lungs, liver, spleen or stomach. Look to the condition of the diaphragm, whether the lower portions of the chest walls are normal, or whether they are contracted. See to it that each muscle and bone is in proper order and relationship with every other one. Examine the joints of the lower limbs from the hips down to the last phalanx of the halluxes. Find out the true state of your case if you would satisfy fully the demands and render the assistance required in all cases. This sort of an examination would convince many a skeptic of the truths of this science, and that many distortions exist that have not been seen by the ordinary doctors of the day. "There are many things true, Horatio, that have not been dreamed of."

The physical diagnosis of the whole man should be known—and not simply the organs. It will be understood that many of the so-called pathological conditions attributed to disturbance of the intestinal viscera—liver, lungs, heart, stomach, spleen, intestines—have their origin in some remote part of the body, due to partial or complete luxation of bone, the contracture of muscular fiber, that has not been noticed at all by the attending physician, so that, when corrected by the Osteopath, all of the trouble ceases. To properly adjust the system to itself is essential in all pathological conditions.

We urgently recommend a careful examination of all the possible probabilities of luxations, ere a conclusion is reached or determined. These things observed may save much unnecessary suffering and delay in bringing about the necessary relief to save life. These points are important to understand, and after a little experience it will be found that there is much more to consider than at first it would seem possible to find, and a proper adjustment of the system to itself, occasionally, prevents many an ache, and cures many a pathological affection that has resisted the efforts of other doctors persistently. Hence this knowledge will be found useful and fill a niche not otherwise filled.

DIETETICS.

While it is said that "what is meat for one is another's poison," it would seem that a book would be deficient without something being said about diet; therefore, we are constrained to say that a very large per cent. of the ills of the flesh are due to the manner and time of eating, rather than what is eaten. The "stuffing process" every few hours, or the "piece-meal" habits of adults and children, and the manner of preparing food, are all subjects deserving careful consideration; then, the manner of eating is of the greatest importance of all. The food should always be thoroughly cooked. It should be thoroughly masticated, and the stomach should be duly rested before it becomes the receptacle for food. No food should be eaten between meals. Eating should be considered a means of regenerating exhausted nerve and tissue waste, rather than simply a gratification of the taste. To get pleasure out of eating, it must be done leisurely, for it is the taste that affords enjoyment, not the idea of how much can be crowded down the throat into the stomach; then eat slowly, to enjoy the food while it is passing through the gate-way to the regions beyond. It is always better to leave off one

meal from the regular habit of most people, preferably breakfast, then dinner will be relished, digested, for the recuperative powers of the secretions will have been rested, food will be assimilated, appropriated, and the nervous system restored to normal activity, and vigor will take the place of exhaustion and sluggishness. The mental faculties will be clearer, and nature will reassert itself throughout all of its domain in the whole body, including every tissue therein, and many a disease pronounced hopeless will begin to wane and finally fade away into buoyant health. The "fad" advertisements for "anti-fat treatments" will find no place for those who are wont to take on "adipose," but every man and woman will be natural. Then, in the case of acute illness, as long as the tongue is coated, the taste is unnatural, foul, do not allow a morsel of food into the stomach until natural appetite demands it, which will be when the tongue cleans off, and then disease will have ceased, and food will be relished, assimilated, appropriated.

REGARDING FOOD DURING SICKNESS.

To suggest a change in the programme of diet from what has been the custom during illness at once excites criticism. To properly appreciate the importance of food, we should first know the condition of the system as regards ability to assimilate it. To introduce food into a stomach that is sick, unable to digest it, seems insulting to the digestive apparatus, even to a common observer; but to one pretending to know the conditions necessary to its digestion, assimilation, would seem superfluous. That patients have been fed to death in an effort on the part of their friends, and often at the suggestions of the physician, abundant evidence could be furnished; hence to arrest or checkmate the sin of "over-feeding" hereafter, we write the following: Do not feed your patient until the disease is cured, in all acute affections; and in all chronic affections be sure to give the digestive organs rest at least fourteen to eighteen hours during the twenty-four, if you would

cure them of their diseases. A rest of a day or two by your chronics will be fraught with wonderful results in favor of recovery. To do without breakfast, drinking plenty of water, either hot or cold, will produce a favorable change for the good of the patient in restoring energy to the digestive organs. The patient will not starve by any means as long as the tongue is coated, and when that cleans off, there will be a natural demand for food that will be the most satisfying, perhaps, that the patient ever experienced. The mouth will fairly "water for what the system needs." Remember that "nature makes no mistakes." To crowd the stomach or impose labor upon or in it when unable to perform it, would be called cruel in us if applied to any other tired, run-down, worn-out laborer, wouldn't it?

In cases of acute disease, the system goes on a strike, as it were, and the laborers at rest; no "designs on the Trestle Board," and all is confusion—it's "high twelve," and the sun is at meridian height; the confusion reigns supreme, and to interfere results at times in death. If we did but know that the digestive organs were powerless to do duty when disease has sway, we would surely act in accordance with reason, let them be until they recuperate their lost power. The whole system is a unit, and when one part is out of gear, all is disturbance. Settle the commotion first, then it can eat its meat "with gladness, and with singleness of purpose," to build up more vital fluid.

Remember that acute as well as chronic diseases lose their grip when the digestive organs are let alone until there are demanded in the system more rations to replenish the waste. Let nature assert herself in her own way. The tongue will clean off and the mouth will become moist, and the stomach will receive the food with a relish, long before the period of starvation sets in. Give the patient plenty of water, suited to the conditions. One glass of water for every ten or twelve pounds of flesh (or weight) every day, will satisfy the de-

mands, whether in summer's heat or winter's cold. This quantity is sufficient to hold in solution the inorganic material and wash away the debris.

SUGGESTIVE THERAPEUTICS.

While it is not my province to enter into the subject fully, but only to give it passing notice, yet we would wish to emphasize the fact in the mind of the reader with an earnest desire to give relief to his patients in every way indicated, that as there are many conditions of the mind culminating in real pathological affections, to know how to lead the mind out of the channel or channels that generate as well as perpetuate disease, it behooves the practitioner to study how to most successfully accomplish that object, with credit to himself and justly to his patient. We urgently request the reader to perfectly familiarize himself with the fundamental laws of psychic phenomena and suggestive therapeutics, by reading and studying such authors as Hudson, Bernheim, Moll, Tuke, Tukey, Cocke, Sextus, Colville, Notzing, Kraft-Ebing, Wetterstrand, and last, but not least, "Suggestion," by Dr. George C. Pitzer, 3955 Belle Place, St. Louis, Missouri. No man is thoroughly qualified to treat disease without a fair knowledge of this subject. It makes a completely rounded-up whole of the healer. Study the subject. Remember that suggestion moves the busy world we live in; it moves the complicated cosmos called man. It is the prime mover of all things, and to know mind is to "know thyself," to know how to direct others in the right way. The magnitude of Suggestion may be compared to a boundless ocean of unfathomable depth, unsearchable in entirety; but brought *en rapport* with healthy thoughts, right ideas presented from proper motives, it produces marvelous results, satisfactory and healing in their influence, creating within the body every change for good or ill, "For as a man thinketh, so is he."

ORIFICIAL SURGERY.

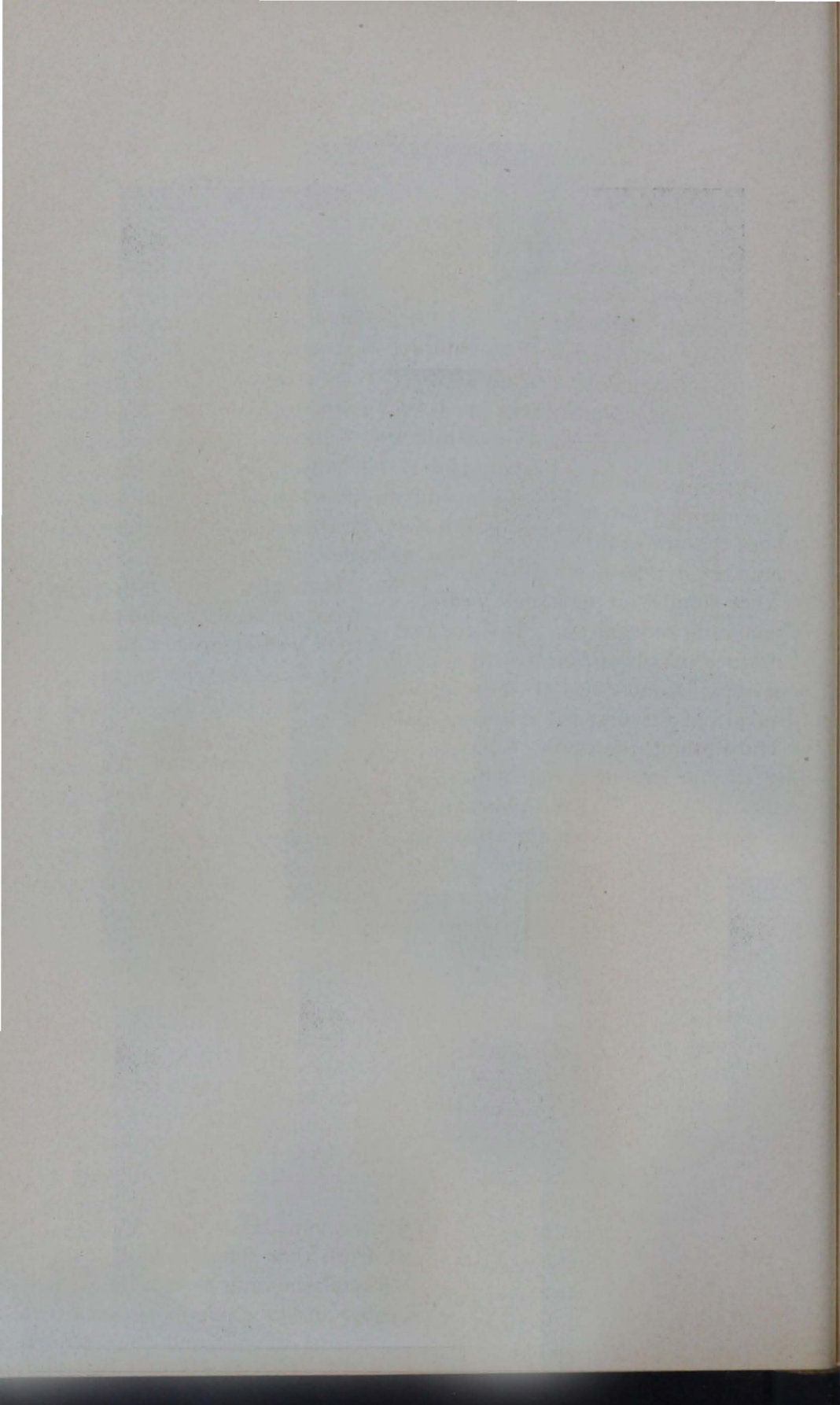
THE ORIFICIAL PHILOSOPHY.

Osteopathy is greatly aided in many instances by the use of the orificial work. Whether instruments are used to divulse the sphincters or not, the necessity of such work is often essential. To expect to cure diseases of long standing without flushing the capillaries is oftentimes futile, and while this may be done by repeated manipulations, it is not known generally by the Osteopath that taking off the pressure of the terminal filaments in the sphincter muscles is paramount to everything else, when needed. That this work is marvelously successful at times, the accumulated experiences of hundreds of the best orificialists in the country have abundantly demonstrated.

That there are those who would presume to assume that all there is in the healing art centers in Osteopathy, it would not require the straining of a point to establish. Narrow-minded people, those who know only a little of what they pretend to, and nothing of some things that others know, will necessarily be self-conceited, circumscribed, and ready to rise up and oppose everything that does not seemingly come under the purview of their restricted horizon; but the experienced investigator, the philanthropist, who feels an interest in the advancement and welfare of the race, willingly goes to work to "sort out the good, and throw the bad away." If orificial work were merely an experiment, it might be plausibly rejected, but it is not that now, but the rich fruitage of a sound, philosophic, proven principle, whose adoption and practice by the greatest minds of this age demonstrate it to be the most effectual means of relief, and the only thing to do in many conditions to afford relief. No rational investigator



PLATE XVI.—The Flux and Diarrhea—Movement for.



who desires to benefit mankind is willing to drop one arrow from his quiver of accumulated, proven facts; but whatever of good he sees anywhere, is willing to give it a place in his armamentarium, for use when needed.

There are cases which will not recover with Osteopathic treatment alone in its present developed state; hence to ignore adjuvants which, if used, carry out the same principle of "taking off the pressure," relieving bound-down nerve filaments, and removing excrescences, constrictions, overcoming undue contractions, would be to refuse aid when in need. The medical profession opposed the orificial philosophy for a time, and even men of the "same craft" fought the promulgator (Professor Pratt) until the demonstrations of the truth of the philosophy were apparent everywhere, and in almost every instance where used forced its use into their practice, until now, the scientific, "up-to-date" practitioner of every school recognizes the utility of the philosophy. It is not a struggle for some theoretical hypothesis, but a welling-up of a great truth that stands out in letters written with a pen of fire, forcibly inviting recognition. It is the *sine qua non* in many cases; instance, phymosis, cicatricial formations, especially in cervix uteri; bound-down clitoris, papillae, pockets, fissure and fistula, and the best possible means of divulsion of sphincters, and flushing the capillaries, relieving constipation; of taking off the pressure of all terminal filaments involved in reflexes from sphincter muscles, and removing sources of irritation.

When it is known that "all diseases of a chronic character manifest themselves at the mouths of organs," the philosophy of orificial surgery will become interesting.

Professor E. H. Pratt, of Chicago, Illinois, lays down a few principles in reference to this science, or the philosophy of this science, that have stood the test without refutation for a decade and a half, which ought to be proof of its merit. We here quote what he says after four years of experiment, and after hearing the successful results of over one

thousand well attested cases in a great variety of chronic ailments that had stood the fire of a great many sorts of treatment, medication, etc., to no benefit, and these results show a percentage of recoveries that is truly astonishing (81 per cent.), and it will be remembered, cases abandoned as incurables at that. Here is what Professor Pratt enunciates: "The work of orificial surgery involves the removal of all sources of irritation and the securing of normal tension for all sphincters. It would take a volume to properly describe this work in detail, and do the subject justice. The work can have no rival, as it is only recommended in cases in which other measures have failed, and instead of being frowned down without proper investigation, deserves a fair trial. It discloses many things which before were not understood, or at least appreciated. For instance: First—The irritation of an organ starts at its mouth. Enlarge the proposition, and you have the thought that bodily nerve waste in general begins at the openings of the body. Second—The smoothing of rough orifices, and the securing of proper dilatation of all sphincters, guarding them, immediately and permanently (so far as material things can be permanent), improve capillary circulation in general, and hence in particular. Third—That in consequence of the increased reactive powers, in cases where the work, unaided, is sufficient to restore perfect health, the properly prescribed remedial measures will now produce their hoped-for results, and recovery will be possible. (This is said in reference to medication.) Fourth—The reaction from orificial work is usually immediate, but may be delayed in certain conditions, for several weeks. Fifth—The patient's sensations are not a safe guide to the existence of these irritations. Sixth—The work on the sexual organs (sexual system) is ineffective, and oftentimes harmful, if rectal irritation be not first corrected. Seventh—That complete orificial work is essential to success; *i. e.*, must include all the orifices, and be prosecuted at intervals, until each and all of them are in a normal state. Eighth—That by this work

as a basis, fully four-fifths of the cases that are now abandoned as incurable are found to be easily, surely and permanently relieved. Ninth—That the condition of the sympathetic nerve power has more to do with the health and happiness of the human body than is usually supposed. Tenth—That the amount of local trouble present furnishes no index to the nerve waste involved, or to the necessity for the work, or to the beneficial effects to be expected from it. Eleventh—That the central principle (of orificial irritation as a predisposing factor in chronic diseases generally) has stood well a continuous and active test, public and private, in hundreds of cases, and by hundreds of doctors, for the last three years (this, it will be remembered, was written in 1888 or '89), and no protest has ever been uttered against it, and that the improvement, as experience multiplies, has been confined to methods of carrying it out, and not to any change in the principle itself.

“Such, in brief, is a condensed presentation of this vast subject of the philosophy and its scope. Its successes are marvelously brilliant and numerous; its failures are many times due to incompetent, incomplete work and its unfortunate use in cases too desperate to be saved by anything short of a resurrection day. It is not a foe to any other measure of healing, but is a help to all of them. As is usual in all human endeavors, those who have opposed its investigation most violently are those who know the least about it, and were least fitted to speak on the subject.” We further quote him, reporting some important facts worth knowing:

“Bring me an individual with clean lips and nostrils; a palate of proper length and tonsils unobtruding; a rectum that presents neither piles, prolapsus, papillae, pockets, fissure nor fistula; an individual whose sexual orifices are smooth and free from all irritation; if a man, his foreskin must be free, the frenum of proper length, the urethral passage normal in size, especially in its prostatic portion; if a woman, her hymen must be pale and atrophied, her urethra void of caruncula and

ulceration, her internal and external ores uteri reasonably patulous, and without undue sensitiveness: bring me such an individual, and I will point to the same individual and show you a human being whose digestion is good, whose sleep is sweet and restful, whose capillary circulation is superb, whose very existence is a source of uninterrupted delight. Such men and women maintain a steady poise of mind and body; they live to the fullness of time, and, unless removed by accident, their dissolution takes place on the principle of the 'one-hoss shay.' They settle down peacefully and slowly into their last sleep, because their time-piece is run down."

"On the other hand, introduce to me a mortal suffering with passive congestion in various parts, whose blood finds its lazy way back to the heart by slow stages, because the peristaltic action of the arteries has tired out, a person whose vitality is low, and whose poor, enfeebled body begins to be a prey of inherited or acquired derangements, consumption, scrofula, or organic derangements of whatever form they may have; show me such an individual (and they are as numerous as withered leaves in autumn), and I will stake the reputation of this idea that I shall be able, without straining a point, to find legitimate fault with the condition of some one or more of the orifices of the body."

"In all pathological conditions, surgical or medical, which linger persistently in spite of all efforts at removal, from the delicate derangements of the brain substance that induce insanity and the various forms of neurasthenia, to the great variety of morbid changes repeatedly found in coarser structures of the body, there will invariably be found more or less irritation of the rectum, or the orifices of the sexual system, or both."

All truth has had to fight its way through crucifixion and resurrection before it became immortal. When the profession, or the laity, learn what orificial philosophy means, the opposition will cease. Osteopaths will resort to it when needed (which is oftener than some are willing to admit); and

more use will be made of it. There are a few of the minor measures that the Osteopath is of right entitled to; such as the divulsion of the sphincters, the reduction of enlarged prostates, straightening the coccyx, and irritation of the clitoris, to produce reflexes in parturition.

The surgical part of carrying out the orificial philosophy will only demand his attention as a matter of curiosity, until he shall have donned the role of surgeon, or becomes a general practitioner in the common acceptance of the term "physician."

It will be necessarily a matter of interest to him when, in some cases, he sees a hanging fire of the disease of his patient for long months of laborious effort to relieve, succumb kindly to a very simple orificial interference. Then his eyes will be widely opened to the necessities of the uses of this marvelous philosophy.

These two sciences seem necessarily inseparably related to each other in practice, and the one is incomplete without the other. Those who do not yet understand or know of Orificial Surgery, we would respectfully refer to Prof. E. H. Pratt, M.D., LL.D., the first to propound to the world the philosophy of Orificial Surgery, its necessities, uses, application, etc. Osteopathy and Orificial Surgery are complementary sciences, and should be used, one to aid the other. The practitioner will learn the former from this book and the latter through its founder, Professor Pratt. Knowing the principles involved in each gives double assurance of competency to cope with pathological disturbances of all kinds.

It will be of vital importance to the Osteopath to know that, in the use of the Bivalve (an instrument used to divulse the sphincters) the capillaries are flushed. Universal warmth ensues at once, all over the body, a regulation of the circulation is at once discoverable, the veins become filled, are more active, the lymph has entered the veins, the circulation increases, and new life is started everywhere in the system. This means of starting up dormant forces can not be

too highly extolled. Resort to the use of this wonderful capillary flusher should be had when indicated, and intelligently applied, it will invariably be followed by beneficial results.

It is not the province of this volume to enter into all of the orificial philosophy, but what has already been said ought to be enough to excite the reader's interest.

THE GARMENTS TO BE WORN DURING OSTEOPATHIC TREATMENT.

To give thorough, satisfactory treatment, the patient should have on a single garment and that large enough to be loose-fitting, something like the pajamas, and the ladies might have an additional loose gown. It is not necessary that exposure be made of either sex in the application of Osteopathy, but the comfort of the patient is desired as well as that of the operator. This advice especially applies to patients who receive a number of treatments in order. In all cases the fewer the garments, the more effectual the treatment.

The object is to have all the muscles free, and the limbs perfectly movable. While the various plates shown in this book are taken with most of the clothing on, yet we would insist, for satisfactory results, that the patient use a separate garment while being treated.

REDUCING DISLOCATIONS.

We do not desire to enter into a long dissertation on this subject. We simply call attention to the more common dislocations that will demand the attention of the Osteopath in his practice, and he should know how to treat them intelligently.

DISLOCATIONS OF THE ELBOW JOINT.

This joint may be dislocated in five directions:

First—Both bones backward, marked strongly by alterations in the form of the joint and loss of motion; and there is considerable projection posteriorly by the ulna and the radius; on each side of the olecranon there is a hollow; the hand and arm are in a state of supination, and can not be turned prone.

Second—Lateral dislocation of both bones of the forearm; ulna thrown on either the internal or external condyle. There is increased width and great distortion of joint, and the forearm is flexed and pronated. In the dislocations outward, the radius forms a prominent swelling, and in dislocations inward there is marked and elongated projection on the inner side of the joint.

Third—The third dislocation is where the ulna is thrown backward. The deformity is very great; the forearm and arm are twisted inward, and the olecranon projects considerably. The forearm can not be extended, nor bent to more than a right angle.

Fourth—The radius is thrown forward into the hollow above the external condyle of the humerus. The forearm in this dislocation is slightly bent, but can not be brought to a

right angle. The hand is between pronation and supination.

Fifth—The radius may be thrown backward. This is seldom or rarely ever seen.

THE TREATMENT.

The first, second and third dislocations may be reduced in the following manner: Seat the patient on a chair; then take hold of the wrist; put the knee on inner side of the elbow joint, bend the arm, and at the same time make pressure upon dislocated bones, so as to separate the coracoid process of the ulna from the posterior fossa of the humerus. And while the pressure is forcibly kept up by the knee, the arm is gradually bent, and the bones will slip into their places.

In the fourth dislocation the hand should be turned supine, the forearm bent, extension made from the hand, not including the ulna in the hold.

In the fifth dislocation gentle pressure and extension will succeed in reducing it.

DISLOCATIONS OF THE SHOULDER JOINT.

The humerus may be dislocated in four directions: Downward into the axilla—most common of all dislocations of this joint; the symptoms being, lengthening of arm, a hollow is felt under the acromion, the shoulder flattened externally, the elbow sticks out from the side and can not be made to touch the ribs, the head can be felt in the axilla, and the hand can not be placed on the opposite shoulder, as in a normal condition. The second dislocation is forward and beneath the clavicle, upon the second rib, the coracoid process being felt on the outside of head of humerus. The symptoms of this dislocation are: The arm is slightly shortened, elbow projects backward, the acromion seems pointed, the depression of the deltoid is more considerable than in the preceding dislocation. The third dislocation is backward on dorsum of scapula, beneath spine, where the head of the bone is easily

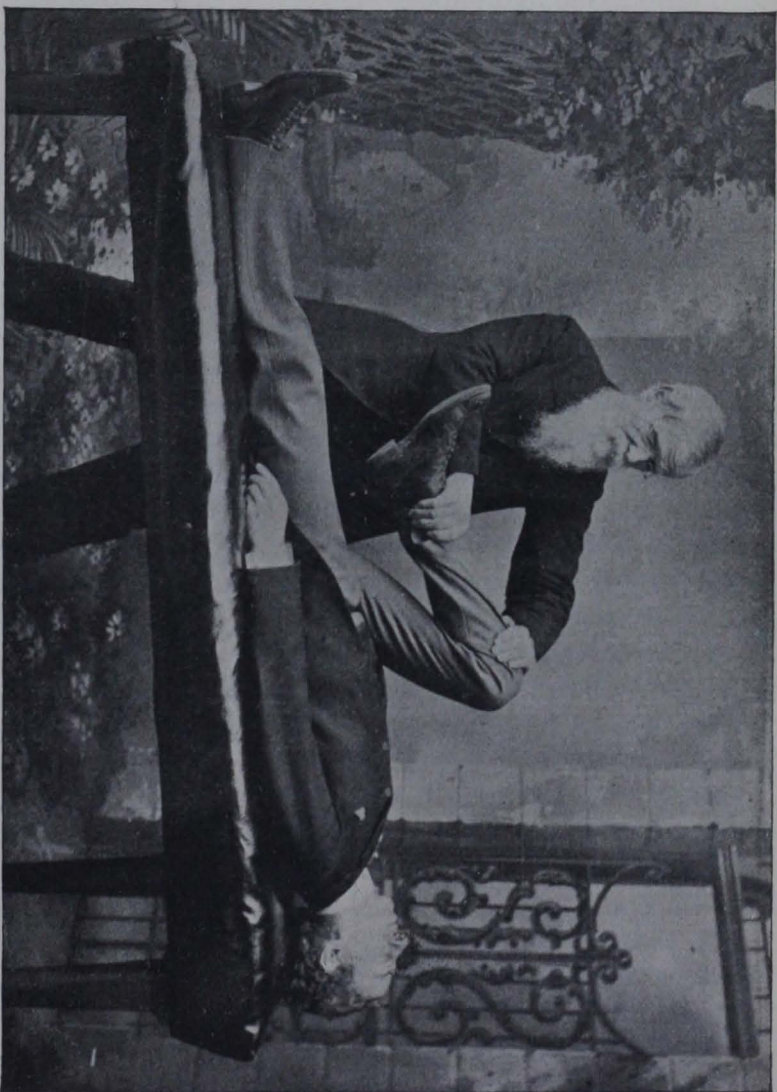
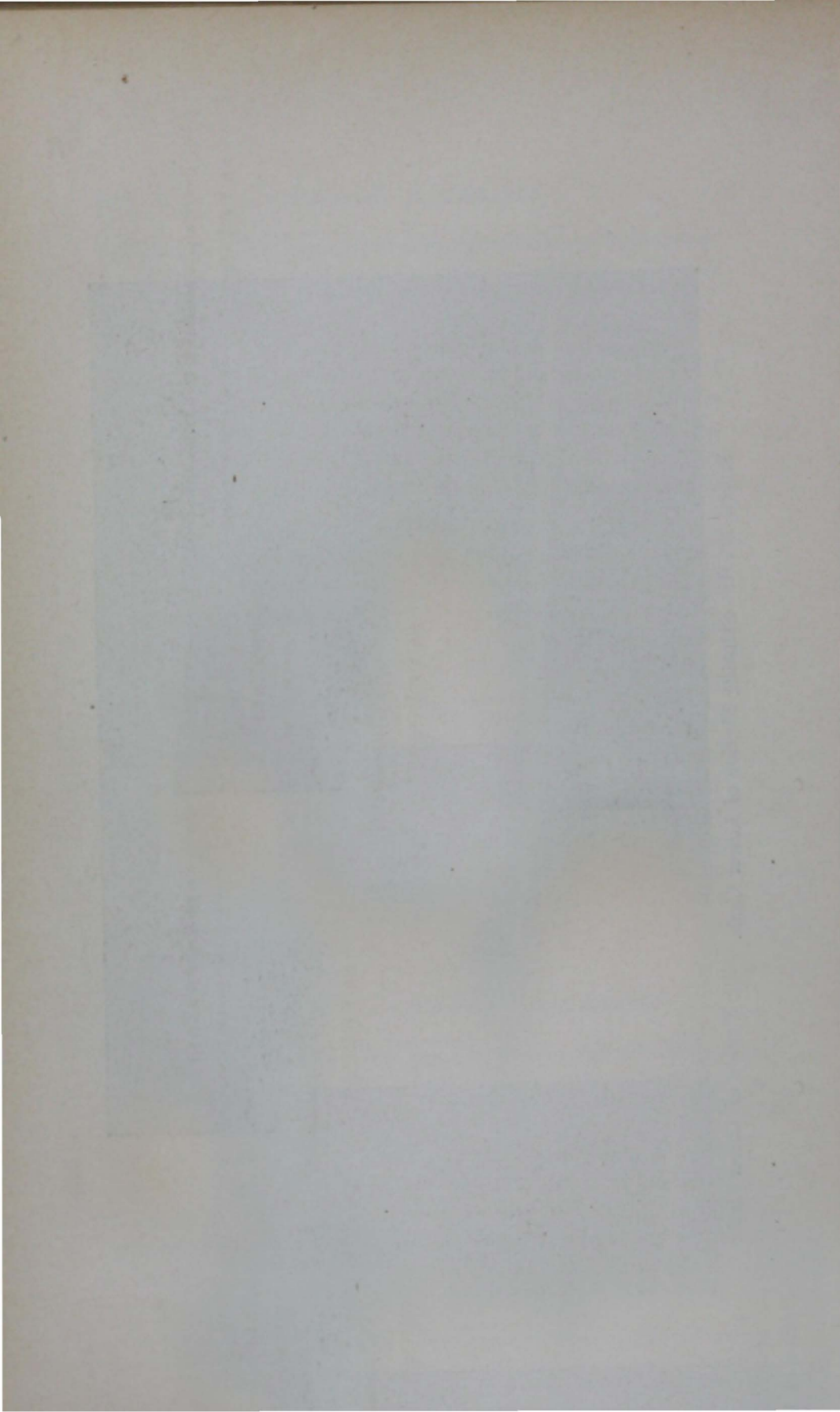


PLATE XVII.—Showing Flexion of Lower Limb.



felt, and will be discovered to follow the movement of the elbow when located, in the movement of arm. The fourth dislocation is only partial, usually that of a pressing forward against the coracoid process. The symptoms are a projection of the acromion and hollow under it, while the head of the bone is prominent in front, and may be felt to move on rotating the elbow. If the hand of the injured side is placed upon the sound shoulder, the patient will be unable to bring his elbow to his side, and if the elbow is brought to the side, his hand can not remain on the shoulder.

THE TREATMENT.

There are many methods of reducing these luxations, such as extension, heel in axilla, knee in axilla, the use of a towel, what is termed the perpendicular method, Kocher's method, etc. The following are sufficient for all practical purposes to operator.

The simple extension method is made as follows: Pass a towel around the chest, under the arm and across above the shoulder, so as to firmly fix the scapula; another towel is fastened in a loop around the arm of patient above the elbow; extension is then made by an assistant, the operator manipulating joint. This is done while patient is sitting erect on a chair or stool. When the extension is made for a short time the operator may easily reduce the dislocation with but little if any pain to patient. The reduction is best made while the knee is used as a fulcrum, as more steadiness may be secured thereby.

The second or heel in axilla process is generally preferable. Place the patient on a table, or the floor, on a cushion or mattress, soft pad in axilla, a strong towel looped around arm above elbow, long enough to slip over shoulder of operator, the heel in axilla, using counter extension with the towel until the head of humerus is in place to slip in, then use arm as a lever, pushing the head into place, upward and outward, and at the same time pulling the limb downward and a little forward by means of the towel that is secured

around the arm above the elbow; extension being best made this way.

Knee in axilla method: The patient is seated in a chair, and the operator places one knee in the axilla, resting foot on a chair or stool, puts his hand on the shoulder so as to steady the scapula and shoulder joint, with the other depresses the elbow over the knee, and presses head of bone into place with hand.

Reduction by the perpendicular method: Place the patient on a low chair or a couch, and then raise the arm perpendicularly by the side of the body, or head more properly, at the same time fixing the acromion, and make gentle traction, replacing head of bone by turning arm in a semi-turn either way, so as to place the head of bone in socket or junction with head of scapula. If but little force is required, the arm may be taken in one hand, gently stretching it upward, and steady the acromion with the other. Should more force be required, an assistant may steady the shoulder, and the operator may use his foot against acromion. When the bone is felt to slip into its place, the arm must be brought down to the side, while the head of the bone is held outward by the hand in the axilla.

Kocher's method: The forearm is flexed on the arm, then turned outward as far away from the chest as possible; the elbow is then carried well forward and upward. Rotate the arm inward and lower the elbow, when the head of the bone will probably fall into place. This may be done without using an anesthetic.

The extension used in any dislocation forward must be made downward and backward at the same time. For dislocation backward, the extension must be made forward. After reduction, a small pad may be placed in the axilla, and the arm and the shoulder held in a sling until all soreness subsides; the roller held by a bandage, and the joint held quietly.

DISLOCATIONS OF THE HIP JOINT.

Of these there are four: Upward on the dorsum of ilium, downward into the thyroid foramen, backward and upward into the ischiatic notch, and forward and upward on the body of the pubes.

The first (upward on dorsum of ilium) happens more frequently than any others of the hip joint. The symptoms are: There is at once perceived a difference in the length of the limb, change from a normal position, toes turned inward, diminished motion and a flattening of hip. The toes rest on the tarsus of opposite foot; the knee and foot are turned inward; the knee slightly advanced to front and resting on other leg (thigh), above the knee of its fellow; the limb one or two inches shorter than the other, and legs inseparable.

The second dislocation—into the thyroid foramen: The dislocated limb is two inches longer than the other one, and in those thin in flesh the head of the bone may be felt on pressure. There is usually flattening on side of hip, and the body is bent forward. The toes point to the ground, and the foot may be turned either outward or inward.

In the third dislocation—backward into the sciatic notch: The head of the bone is resting on the pyriformis muscle. The limb is from one-half to one inch shorter than the other one. The toe rests on the ball of the great toe on the other foot. The knee and foot are turned inward; the toe touches the ground, not the heel, when standing. Not much flexion or rotation of the limb can be made.

The fourth dislocation—on the pubes: The limb is shorter than the other; knee and foot are turned outward, and can not be rotated inward; the head of the thigh bone is readily felt on the pubes.

THE TREATMENT.

These dislocations may be reduced by manipulations. They may not be easily done, except in recent luxations, and usually require several attempts to do. The muscular con-

tractures due to putting them on an undue strain are difficult to overcome after a time elapses after dislocation.

1. Dislocation upward on dorsum of ilium.—To reduce this dislocation we use the limbs as levers, the trochanters as fulcrums, by which the head of the femur may be slipped into place. The knee must be bent on the thigh and the thigh on the abdomen or pelvis; the operator, grasping the ankle with one hand and the knee with the other, causes the thigh to perform circumduction movements toward abduction, finishing with a rotary movement of the femoral axis, when the head of the femur will probably slip into place. The limb may be reduced frequently and more easily by placing the ankle of the dislocated limb across the knee of the other limb, the patient sitting on a stool or chair, knee flexed, placing one hand at the hip joint, putting the breast on the knee, pressing it down to a right angle, and with the hand holding the ankle, patient relaxing as much as possible, operator suddenly jerks the leg off the knee against his side, and the joint goes in place. Professor Bigelow recommends that the thigh be flexed with a little inward rotation, producing inversion of the toes, and then the thigh should be abducted, circumducted, and at the same time rotated outward. This has been described in the directions—"lift up, bend out, roll out."

2. For the Dislocation Downward.—Rotation inward of the flexed and slightly abducted thigh upon the fulcrum of the Y-shaped ligament.

3. The Dislocation Backward.—Dr. Bigelow reduces this dislocation by circumduction of the flexed thigh inward, so as to unlock the head of the femur, and then abducts and everts the limb with an outward jerk.

4. Dislocation on the Pubes.—Flexion, combined with abduction, may be tried. If not successful, abduct thigh backward and downward, placing hand against head of femur, pressing it downward under rami of pubes, then abduct with flexion, suddenly jerking limb downward and outward.

These luxations should be thoroughly studied before

beginning to operate on them. Frequent and oft-repeated attempts at reduction may result in inflammation, and the proper diagnosis of conditions, location, muscles involved, should be duly considered before undertaking to manipulate.

It may be objectionable to some to use pulleys, but in some instances it will be found easier on patient and operator to do so. The luxation on pubes is one of the most difficult to reduce, and the operator will find that the pulley will be of immense service in its reduction. Extension and counter-extension may be made so gradually as to produce but little if any pain, and the reduction may be made by simply a slight pressure on head of bone. If the pulley is used, care should be taken to use well-padded bands in the groin and around the limb, and the pulley should be manipulated with a crank, so as to completely govern its action, being particular to use only enough force to let the head of the femur pass the edge of the acetabulum—not to increase the existing laceration of the capsular ligament around head of joint.

With the proper care, nearly all of these dislocations may be reduced, making many a lame person leap for joy. There is no propriety in letting these dislocations go on for years, for they may all be set, if taken in time. Osteopathy has gained most of its laurels in setting "hip joints." Many a case that has gone to an Osteopath with lameness, limping and using crutches, has gone away without them, leaping and clapping his hands and vociferating with all the thankfulness imaginable. Study your cases, and manipulate the parts until sufficient relaxation of the muscular structure warrants any attempt to set, then try it. Keep trying until it is accomplished.

DISLOCATIONS OF THE KNEE.

The knee is often dislocated, and there are four ways it may be out of place, to-wit: First, Inward—The tibia projecting on the inner side of the joint, and the condyle of the femur resting on the external semilunar cartilage. The sec-

ond dislocation is where the tibia is thrown on the outer side of the joint, the condyle of the femur being placed on the inner semilunar cartilage. The third dislocation—the tibia is dislocated forward. The fourth dislocation is when the tibia is luxated backward. Symptoms obvious, and easily recognized.

THE TREATMENT.

Each of these dislocations may be quite easily reduced by extension and counter-extension. The great tendency in the injuries of the knee is to take on inflammation, and it will be important to enjoin absolute rest after injuries to the knee (of any character whatever) until all soreness has subsided.

In the adjustment of the toes and fingers, gentle extension and pressure are all that is necessary to be done. The same may be said of the wrist.

Bunions are caused by dislocation of the third joint of the great toe, and cured by setting the joint and keeping it in place by cotton pressed between it and second toe. Repetition of the setting will be required to keep it in place in some cases.

For further information regarding luxations consult the large works on surgery.

FEVERS AND THEIR TREATMENT.

FEVERS.

The phenomena in the body characterized by a rise of temperature, increased circulation of the blood, marked tissue change to a greater or less degree, disturbance in the secretions, mental excitement or depression.

The causes of fever are a mooted question. Many theories are advocated, but the most plausible seems to be that of central disturbance near the corpus striatum, due to blood pressure. The cause of the blood pressure is as much a mooted question as the cause of fever.

As all heat is due to molecular change or friction, or chemical changes, it is very reasonable to attribute the cause of fever to bi-chemical changes, causing increased molecular action. It is not our purpose to argue this question, but submit the above for consideration.

It is a fairly well settled fact that certain stimuli to the vaso-motor filaments along the sides of the upper cervix ordinarily modify the circulation and regulate it, and reduce fever. Inasmuch as the vaso-motor nerves control the peristalsis of the muscles surrounding the arteries, regulating the size of the caliber, and these nerves are the end filaments that we stimulate, it follows that the regulation of the circulation of the blood is through the said filaments, but necessarily starting from the center or starting place of said filaments. Some have supposed that the heat disturbing or regulating center is near the corpus striatum. Be that as it may, impeded circulation may be rationally responsible for the increase of temperature we denominate fever, the disturbance originating from pressure due to contraction of muscular fiber, which was due to excessive or undue irritation of

terminal nerve filaments; cold, contracting down on end nerves, or poisons introduced into the system, irritating nerve centers or paralyzing them. The normal temperature is said to be $98\frac{1}{2}$ degrees. In fevers it may rise to $106-7$ degrees, or even higher, and the tissue waste is in proportion to the temperature and the duration. The disordered secretions are usually manifest by the deficiency in quantity, the dryness of the tongue, clamminess of mucous membrane, thirst, high-colored urine and constipation.

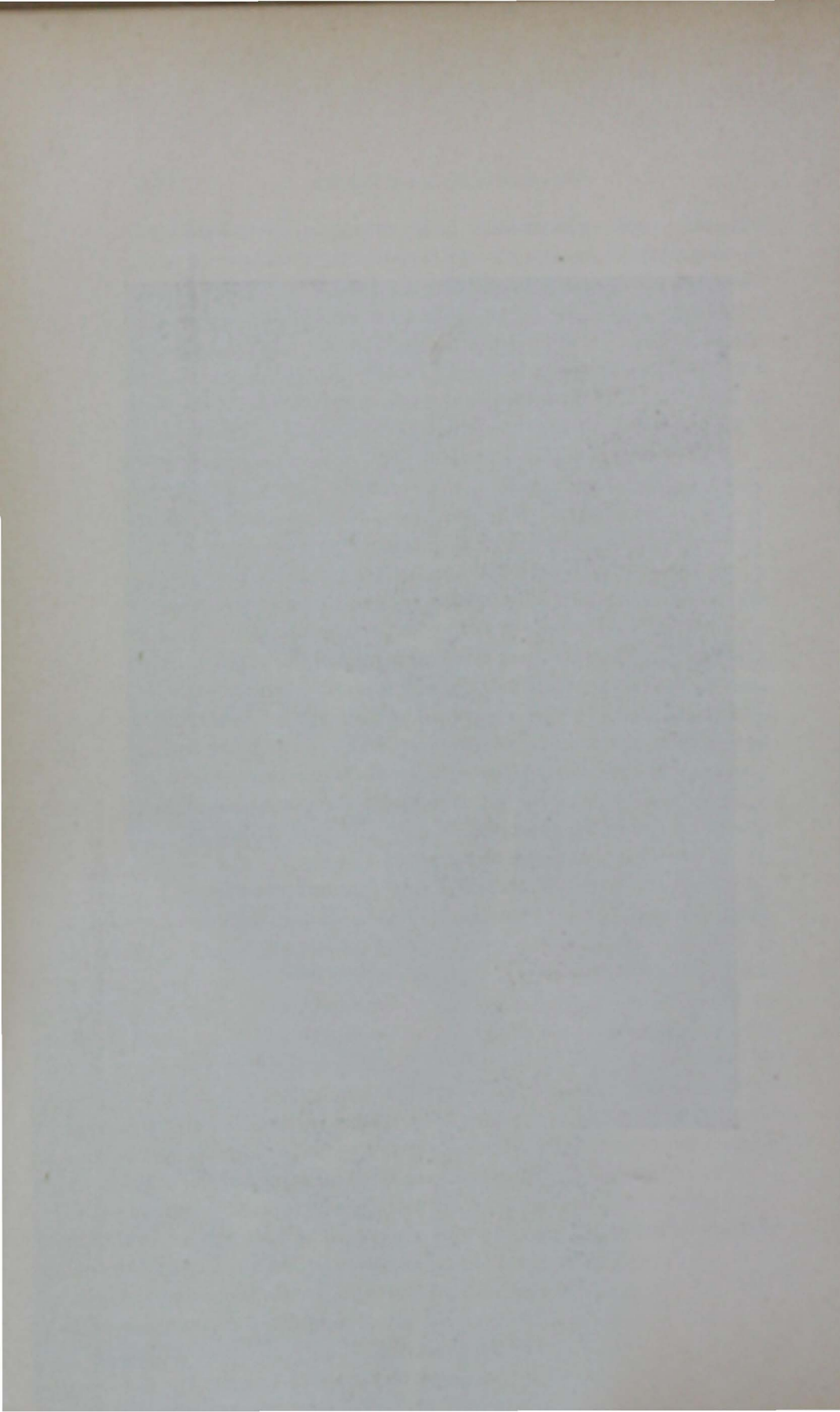
GENERAL TREATMENT OF FEVERS.

The first indication would seem to be the reduction of the temperature. The reader will please to bear in mind that fever is not a disease—only a symptom. Inasmuch as the Osteopath uses no medicine, it becomes a matter of great interest to know how he is going to reduce the fever. Time-honored and long-cherished habits demand a plausible reason for discarding medicines in this instance. Doctors have had recourse to aconite, veratrum, antifebrin, antipyrine, spiritus nitri dulcis, etc., for long years, and for any one to pretend to say that fever could be reduced without the use of some one or all of these agencies elicits intense criticism. To appear on the arena as a physician without medicine or prescription blank, and pretend to possess power and knowledge sufficient to control the temperature of the one possessed of a fever, seems the height of presumption by the medical fraternity, and they are ready to denounce such a pretender as a fit subject for an insane asylum. Notwithstanding the announcement by them of the fact of fever being caused by a disturbance of the nervous system, they are unwilling to acknowledge that a regulation of the action of the nervous system will cure fever—unless, perchance, it comes as a result of medication. What singular beings we are!

These are the means the Osteopath uses to reduce fever. It matters not what name the fever is dubbed with, whether



PLATE XVIII.—Manipulation of Sciatic Nerve.



typhoid, typhus, scarlet, dengue, yellow, cerebro-spinal, enteric, intermittent or erysipelatous, the Osteopath has but one remedy—that is, Take Off the Pressure. This cures all manner of disease. The general treatment to restore the general circulation over the whole body is to be remembered, and the proper pressure on the sides of the cervical vertebrae (from the base of the skull), the occiput, down the neck for a space of three or four vertebrae on the terminal filaments of the vaso-motor nerves in that region, from two to five minutes, regulates the action of the peristalsis of the arteries perfectly, satisfactorily. The pressure should be made lightly at first, gradually increasing the pressure to a sense of a little uneasiness, and holding the fingers steadily there for a longer or a shorter time. This results in a remarkable lowering of the temperature, and starts the perspiration in every pore in the body. It does it, too, without injury to the patient. This is the universal treatment for all fevers. Care should be exercised that too much pressure be avoided, for in some diseases there is a liability of a return of fever, and if the former pressure has produced soreness in that region, it makes it painful and unpleasant for subsequent manipulations; hence due care should be exercised.

The Osteopath has recourse also to the natural fluid of the body, to-wit: Water. As water constitutes about seventy per cent. of the human body, it is essential that it be kept supplied. Water is the most complete solvent of the elements of the body components known, hence should not be lost sight of. A disturbance in the system, remember, is caused by molecular changes, and these changes are largely due to precipitation, coagulation of the albuminoids for lack of the solvent, water. The necessity of this fluid becomes a matter of eminent importance, hence it should be furnished. The fever patient then, should have this supplied at short intervals in quantities varying according to demands, thirst, etc. The warm bath is also at times essential. Directions for bathing should be followed as described elsewhere.

In all fevers the friction is caused by decomposition of the elements. Decomposition may ensue from two causes: The one being due to disturbance of nerve centers, producing paralysis of nerve filaments all along the line to their terminals, and the other from pressure somewhere along the course of the nerve—in or on its surface, or at its terminal. Either of these causes produces a like result. The stimulus at the center may be due to direct pressure on the center, or by reflex influences from pressure, or from poisons introduced into the system and absorbed, more than the system has power to eliminate. Here is a clincher and a hard nut to crack, for the medicine man to solve and dispose of satisfactorily. The use of water, as the reader may now understand, becomes a matter of urgent necessity in all cases of fever. The temperature of the bath should be about 80 degrees at the start, and after being in it for a few moments, cold water should be gradually added, and the effects upon the patient carefully observed. When the surface begins to turn moderately turgid, blue, the effect is produced that is needed for the time. Take the patient out of the bath now and remove the cloths or sheet used, wrap in a dry sheet or blanket, place in bed and exclude the air from the body until reaction ensues, or the patient has had a refreshing sleep. The fever is now measurably lessened by this process. The body should be dried, after due allowance of time has elapsed, from all accumulations of perspiration, and the clothing changed to clean, dry, well aired spreads; the patient instructed to take deep, long inhalations of air (through the nostrils), retaining air as long as is comfortably possible, and go through a half a dozen or more of such exercises at once—or at one sitting, as it is termed. This should be done every bath, and the bath should be repeated from every three or four hours to once or twice a day until the fever is cured. All this time let the patient have no victuals, fruits, nor any food of any sort until the tongue cleans off, and food is called for. The patient will do that. Don't be uneasy about the patient

starving. You sit by and wait until nature asserts herself. Then it is time for you to move in that direction. What would you think of the sense or the judgment of a man driving a horse, tired, worn down by a heavy draft, up a steep hill, pulling all his exhausted strength would allow, and strained to do that, and the driver (the doctor or nurse in this case) were to add more weight, and lash the beast to make him increase the effort to pull the weight? Would you tolerate such a manifestation of abuse—of downright cruelty? You say no. Then make the application! Take Off the Pressure if you would cure anything in the form of disease. See?

The above principles embrace the treatment of all fevers, and to be successful you should lay aside your prejudices (if you have any) and treat every case on similar principles, and something like the course marked out.

It is said by one author, in treating fever, "Don't starve a fever"—and after giving the pathology showing that the system could not assimilate food, demonstrated his utter incompetency to decide the matter physiologically. If the system is not capable of assimilating food, why tax the digestive organs with work it can not do? And if it manages to automatically go through the process, without the proper mixtures of the secretions necessary to be taken up and converted into assimilable material, where is the reason for it? We then lay this maxim down as universally applicable: Do not feed any fever. When the tongue is coated, every tissue in the body is deficient of power to work—run down and closed up all of the workshops, lain down to rest—what sense is there in shoveling in more debris? Wait until nature calls for help (food); then, and not till then, is it proper to feed a fevered patient. That will then be when the system no longer has fever. Your patient will not starve! The whole nervous force has turned its attention to renovating the system of its poisons, and you need not, under any circumstances, undertake to change the order of things. The already accumulated

nerve substance will not decrease in its effort to clean up the house that has not a comfortable apartment in it. You stand off, hands off. Remember that nature is now master of the situation; she is asserting her prerogative, and she will perform her labor, if left alone, perfectly; and if you will sit by and watch her wisdom in sweeping and garnishing her apartments, you will learn a lesson you never knew before.

"Well," one says, "what are you going to do for your patient? Are you going to sit and let your patient starve?" "Who ever heard of such a cruel wretch?" "Won't let his patient have anything to eat, eh?" "Here waste is reducing the flesh every day, and not a mouthful of food has that poor, sick boy had for six or eight hours." "Poor thing! He is almost starved! Why, since I come to think about it, he hasn't had a mouthful of food for twenty-four hours! Ain't that awful? Starve! Doesn't that look like it?" This is about the sort of expressions that will confront the sensible physician while he is watching his patient. But we opine that if our directions are followed, medicines all thrown to the cess-pool, all food withheld, and the proper nursing afforded, your patient will come out of his sickness in a much shorter time, stronger, recuperate in half the time, and be better every way, less mentally beclouded, brighter intellect, and sooner fit for doing duties devolving upon him or her! Don't feed your fever patient!

The fever is only a symptom, and not a disease. Where is the trouble? What produces the fever? We regard fever as a result of chemical changes in the elements—friction of the molecules, due, in many instances, to capillary disturbance, resulting in congestion, or hyperæmia (which means too much blood in parts). Decomposition (tissue metamorphoses of a degenerative character) takes place, friction ensues, heat is the result.

It is pretty fairly well settled now, that the circulation of the blood in the arteries is controlled by stimulation of the cervical vertebrae at the upper and back portions, as well as

other vulnerable spinal localities, and that when this is effected we become masters of the situation. All treatment for all sorts of increased temperature should be wisely directed to these localities—never lost sight of. For any and all degrees of temperature, for all of the so-called fevers, whether from a slight cold to a burning scarlet or a raging typhoid, the neck is the first place to look to and to begin to treat the patient. Gentleness can not be too urgently enjoined at first. Here is the throttle-valve that controls the moving of “the world,” the cosmos, and it is important that the degree of pressure on the lever be cautiously heeded!

The patient should have a comfortable resting place, provided with pleasant surroundings, plenty of light, pure air, and of the proper temperature (ranging from 65 degrees to 70 degrees). The body should have its quota of pure water, and at short intervals, and of a temperature suitable to the condition or desire of the patient. If there ever is a time to use water for “salvation,” not of the spiritual man, but of the physical, now is the auspicious time, the use of which is the essential thing—internally, externally, and I might reasonably insist eternally, so far as the fever term continues. The temperature of the water is a matter to be duly looked to—to be considered. It is a strange peculiarity in nature that she selects the things suitable in all instances, if allowed to dictate for herself. The motto should be: According to condition of the patient. The bathing in water of the whole body is a question that requires much judgment on the part of the nurse, as regards the time to remain in it, the temperature of the bath, and the intervals that should elapse between baths. The temperature of the body, the stage of the malady, the strength of the patient, and the effects of the bath on the temperature, should be the suggesting factors in this matter. It should be remembered that the reduction of the temperature depends upon the removal of the sources of friction that causes the fever. During the bath there is absorbed into the system a considerable quantity of water; this, being the most

diffusible stimulant, nature accepts with delight as a solvent—a harmless solvent of all of the elements in the body. The indications in cases of fever become apparent to the physician as well as to all other practically common-sense individuals (pardon the expression and the applicability). At any rate, use water. Give the patient water—pure water—a little at a time, but give it often. Do you know that water puts out fire, and that it contains two parts of oxygen?—the very thing that purifies blood; and a demand for this element is loud and persistent as long as heat continues? Use water, then, in all fevers. The evaporation of the water is causing the fever. Supply it, and the fever is cured. This is the way to feed the patient—starve the fever—drown it.

TYPHUS FEVER.

Synonyms: Jail fever, ship fever, and contagious.

This is an acute, infectious, epidemic, febrile state; comes on suddenly, producing great depression of the vital forces, characterized by a peculiarly sickening odor, eruption of a measly character all over the body, except on the face, and presenting a deep, dusky flush, and a glazed appearance of the skin; pupils contracted and eyes flushed. There is extreme tenderness of the shin bones, muscular soreness, extreme prostration, vertigo, tremors and subsultus, and most generally attended with constipation (this is the peculiar characteristic), with the eruption like measles, except on the face.

The symptoms of this fever simulate cerebro-spinal fever very closely, only that the rigidity of the muscles of the neck are more pronounced in cerebro-spinal fevers. The complications may be pneumonia, swollen parotid glands. The mortality ranges from five to thirty per cent.

THE TREATMENT.

The neck muscles should receive our special attention.

The evidences of capillary congestion are marked in the mottled skin and eruption. Manipulate the neck and spinal muscles thoroughly, profoundly; lift the clavicle, stretch the neck, and rotate it; elevate the chest and stimulate spinal muscles by rotary vibrations upwards and outward; also treat in like manner (the rotary manipulations of the hand) over liver, stomach and bowels. In fact, the whole system needs a general treatment, being careful not to use too strong force. The vaso-motor region will demand attention to reduce the fever.

The moderately warm bath will be indicated as often as once a day, stimulating the skin by dashing cold water on the body after coming out of the bath. Use water clysters daily, and give pure water to drink every half to one hour in moderate quantities. Use nothing in the way of food until the system is in a condition to assimilate it.

Notwithstanding the extreme prostration, food is not indicated. Get rid of the poison, relieve the congestion, start up the circulation, arouse the nerve forces, wash out the debris, and then the system will call for what it needs. To break the spell that holds the mind enchained—the craze to feed the sick—is what we desire to emphasize.

RELAPSING FEVER.

This is a sort of a bilious typhoid famine, febris recurrens, spirillum fever, self-limited disease, lasting about six days, and said to be contagious and epidemic.

After it has lasted about that time it suddenly or gradually subsides into a remission, to be again followed by another attack similar in character, but associated with an alteration of the structure in the viscera (which is said to contain micro-organisms—the spirilli of Obermeyer. (Wonder why he turned them loose in that particular fever?)

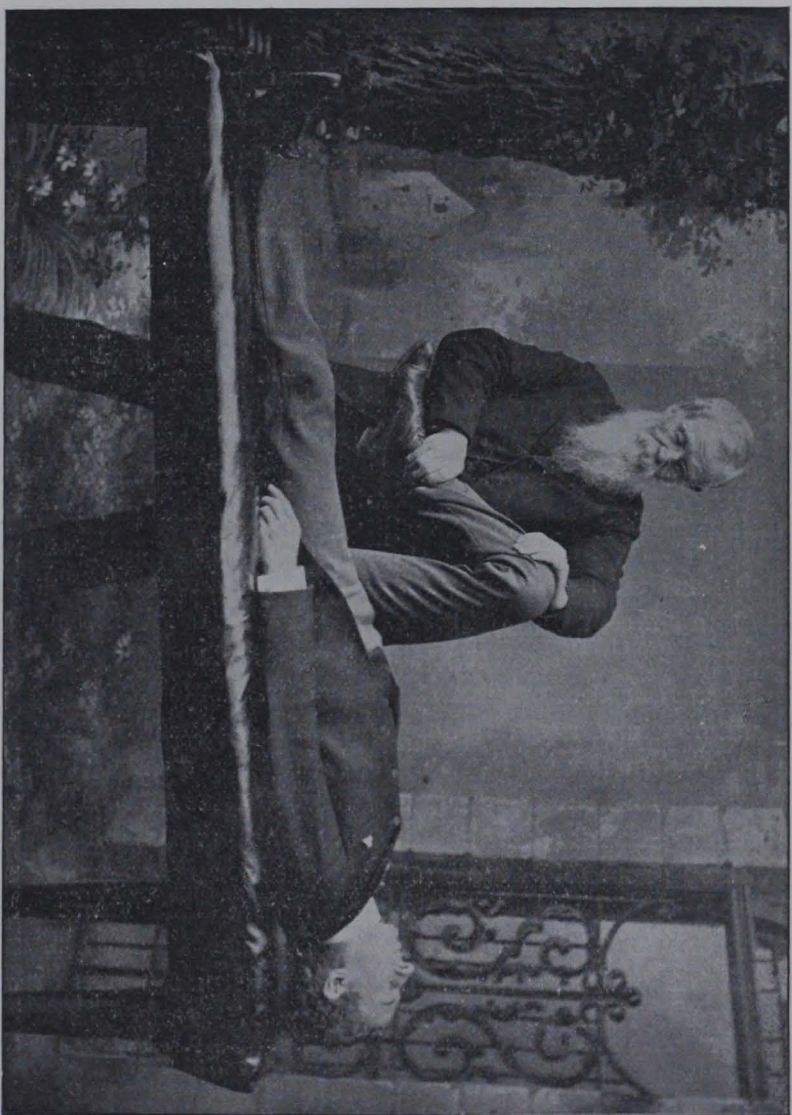
It is said that the cause of this particular affection is contagion. Specific! It is also stated that “it acquires its

greater activity from filthy, crowded and unhealthy populations, amid which it prevails." The beast that causes this disease is a regular "corker," but he is only seen in the minutest form (and that in the blood) after the fever has set in. During the "fever" he is a minute screw-shaped beast, spiral in form; hence the appellation we dub him with, "a regular corker." It is said also that the spleen is covered with a fresh fibrinous exudation—that the corpuscles present a mottled appearance; that its pulp is more or less softened, swollen, and malpighian bodies are perceptibly enlarged; and the liver and kidneys are swollen, enlarged, congested.

The characteristic symptoms: There are no premonitions. This fever comes on suddenly, and the fever will rise to 102 degrees to 104 degrees, and continue high for several days, with rather a weak pulse, headache, sick or nausea, vomiting, and lancinating pains in the limbs and muscles, especially the calves of the legs, followed by fullness, pressure and more or less pain in right hypochondrium. This may be due to swelling of the liver and spleen. Jaundice is a frequent accompaniment and of frequent occurrence. The seventh day the crisis comes—the fever ends; and about the fourteenth day the symptoms return, but generally in a milder form, and continues about four or five days, when slow convalescence begins. Emaciation considerable, and relapses may be repeated several times.

The medicine doctors give quinine, although they acknowledge that it has no power to prevent the relapses. Their treatment is largely expectant! The use of morphine takes precedence here (for pain), and the carbolic acid, cerii oxalas, ferrum, and quinia. They acknowledge that they do no good in this disease, yet the patient must take his medicine! Having had much experience with this fever, we readily understand why medicine does no good. I did not understand why the medicines failed to cure it when I formerly treated so many cases in the southern, hot climate; but do now, and this is the very reason that I am writing out a

PLATE XIX.—Vibratory Movement of Knee and Hip Joint.



rational system of treatment that will cure, or be the means, if practiced, of taking off the pressure and letting nature right herself. Remember our text: Take off the obstruction that produces the lesion, and disease no longer exists. Pathology means pain. Pressure produces pain; therefore take it off, if you would cure your pathological conditions at all times and everywhere.

THE TREATMENT.

It will be remembered that fever is only a symptom, and not a disease, and the question arises, always, What is to treat? The cause or the symptoms? If the bug is the cause of this fever, as asserted by pathologists (or at least supposed to be the cause), why make so much delay in arresting his ravages? Then why give quinine? Why give carbolic acid, or why give anything? We protest against the whole bug theory of disease, and regard no such harmless creature as productive of results attributed to him, hypothetically, or really, or probably. The *materies morbi* causing infectious disease results from the capillary or venous obstruction or obstructions somewhere in the body. All pain has its origin in blood stasis, causing pressure on terminal nerve filaments, severing the connecting terminals. Tissue degenerative metamorphoses result; *materies morbi* manifests itself; a nidus is formed; catalysis contaminates; decomposition ensues; infections come in as a result of chemical changes; the blood becomes contaminated, and whatever the elementary constituents of the secretions be in the particular part where the stasis occurs, in its transition from one chemical to another, the results are accordingly.

This organism of ours is the most complicated chemical laboratory that divine thought ever created, and even receives impressions from the thought of the individual which at once produce chemical changes that restore the possessor to life and health, or send their wailing and depressing influences through every tissue in the body, changing them to morbidity, which results in death itself. The delicacy of this

human structure is inconceivably delicate and impressionable. A change of the whole career of man is often the result of a whisper, because the thought therein turns the whole tide of life. Then how important it is to know how to start the proper forces in the system to control the movements of the fluids that contain the life of man! Osteopathy understood is a leverage that moves the world, and its benign influence will spread from sea to sea, and the far-off isles will clap their hands for very joy when its marvelous possibilities are fully comprehended. The medical profession, with its combined wisdom, should possess such a leverage as this to combat with the arch enemy, disease. The simple truth along any line of thought seems to be the last, the slowest and most difficult to comprehend and accept of all things. Every conceivable excuse that the heart of man can devise seems to be called forth as a justification of their opposition and rejection! We need not repeat this proposition, for it has floated on the very surface of history adown the ages, and is constantly verified; and I opine the Psalmist uttered truth when he said, "All men are liars"—the legitimate fruit of the seed sown. The truth, however, is mighty, and will eventually prevail.

The Osteopathic treatment for relapsing fever, then, is the same as for typhoid fever.

CEREBRO-SPINAL MENINGITIS.

This is regarded as a malignant, epidemic affection, characterized by suddenness of attack, severe headache, vomiting, severe and painful contraction of the muscles of the back of the neck and spine, delirium, disorders of the special senses, coma, stupor, and a spotted purpuric eruption under the skin, showing symptoms of decided congestion. These lesions are found along the meninges of the spinal cord in post-mortems.

The cause seems to be unknown. The micro-organism

seems to exercise considerable influence in its production, so said by some authors. The bacillus theorists have not discovered the means of entrance of the "critter" as yet, and they are in doubt whether he is going to produce spotted fever, erysipelas or pneumonia in his peregrinations through the system. To make such ado about a bug seems altogether out of proportion to the facts in the case. It is also strange that this "bug" should have a peculiar predilection for the young. The attacks come on suddenly, even while the little one is in the height of glee, and on the street, suddenly prostrated, without any premonitions whatever. Strange bug that!

The causes of this pathological condition seem to be wholly wrapped in mystery. The unfruitful search for outside causes and influences leaves the profession halting and guessing what might be, and failing to find what is the cause. To give remedies under such circumstances seems the height of folly. To "beat the air" seems to hold out the idea that enemies infest the very air we breathe, and call forth our whole man in physical array to fight effects—and the profession claim to be the arbiters of the health of the people! While there are many circumstances in the environments that tend to contribute to the production of diseases, yet these should not center in some peculiar "bug," and then assume that it has produced the changes in the system that manifest the various symptoms found in pathological conditions, and then theoretically assume that the treatment of symptoms is the proper guide to govern practice. Where is the trouble in this affection? This is the thing to settle. Remove that, and health comes back and resumes its throne. Take Off the Pressure. This is the universal remedy!

Capillary congestion is the sole cause of this affection. Arrest of circulation of the blood and other fluids of the body—decomposition—change of chemical elementary constituents—the materies morbi resulting from these decomposing elements, caused by the inhalation of the poisoned atmos-

phere, from telluric and atmospheric changes. The lesion is in the meninges of the brain and the spinal cord. Remove the obstruction and the effects cease at once! Do not wait on the uncertainties of presumptive medication.

The drug that the profession relies the most on, opium, arrests all tissue change, and only tends to increase the speed of the patient to the realms of "kingdom come." This blunts all sensibilities, and the doctor rejoices in the idea that this is the salutary remedy. To the Osteopath this seems the height of stupidity and ignorance of the proper method of relieving the afflicted of the cause of the trouble—congestion.

It is said that there are three groups—the common, the fulminant and the abortive. The common begins with a chill, severe headache, nausea, vomiting, vertigo, and a sense of extreme weakness, and within a short time the muscles of the back become rigid, painful on moving the head or neck, retraction to the extent of oposthonos ensues, extreme restlessness, hyperesthesia, cramps in the muscles (especially of the legs); spasmodic twitchings occur, and frequently spasms and delirium. Added to these symptoms there are intolerance of light, blindness (sometimes sudden), more or less deafness, loss of smell and taste. The temperature and pulse are irregular. Much else might be said of this form of the disease. There is another form that is called the fulminant form, ushered in by a severe chill, great depression, followed soon by a collapse, into which the patient sinks and never reacts therefrom. The abortive form is not so severe, and may not be pronounced only in some respects during the course of an epidemic; that is, different in type only and point of severity. The prescribed remedies of the Regular School of medicine are opium, quinine, ergota and iodide of potassium, tar plasters and cold compresses.

THE TREATMENT.

The Osteopathic treatment is similar to that of typhus fever, with special attention to the vaso-motor area and all

along down the spine—taking off the pressure all along the line, and everywhere. Reflexes are prominent characteristics in this disease, and special regard to the sphincter muscles must be had. The pressure must be taken off the sympathetic nerve filaments; arouse the secretions, unite the forces at once, or disintegration soon sets in, and the lesions become sources of *materies morbi* of a malignant type. Use plenty of water, internally and externally. No food to depress the already exhausted digestive organs. Let the patient have rest of body and mind, and only treat enough to take off the pressure, then let patient rest. A crowding of the stomach, or the administration of opium, is surely uncalled for. To relieve the excessive pains, take off the pressure, start the forces to moving out the debris. Do not wait until special symptoms develop. Remove the cause (the obstructed circulation of the fluids of the body), and you cure your disease, or it gets well itself.

Fortunately for the people, this disease is not a frequent visitor; but when it does appear, it leaves a trace behind—not only carries off many, but leaves the balance in a condition that death would better have occurred to its victims—crippled, blind, deaf, or demented! Horrible state to contemplate! When Osteopathy is properly applied, such results will cease. The cure should be as readily effected as that for diphtheria or scarlet fever, typhus or typhoid fevers, and this is true of many other affections thought to be incurable.

The re-establishment of nerve force takes place when the pressure is removed. The almost universal pressure will be found in the jugulars and cervical muscles.

LA GRIPPE—INFLUENZA.

Synonym: Epidemic catarrhal fever.

This is an acute, infectious, sporadic, epidemic fever, usually accompanied with more or less inflammation of the lungs, and always affects the nervous system intensely, pro-

ducing extreme prostration, out of all proportion to the seeming severity of the fever.

The causes are said to be various. A specific bacillus is thought to be the cause by some. Others suppose it is induced by soil, climate, atmospheric changes. We are not going to stop here to argue the bug theory of disease.

The symptoms of the affection are as varied as the causes assigned by pathologists, as regards variations and intensity, from the slightest illness to the most grave, often ending fatally. The onset is usually sudden, beginning with a chill, lasting a longer or a shorter time, then fever sets in, reaching as high as 103 degrees, with a rapid, soft pulse, shooting pains in the muscles, over the eyes, frontal sinuses, chilliness down the spine, hoarseness, with more or less pain, deafness, running at the nose (thin watery secretion at first), eyes watery, a dry, irritative cough, affecting the bronchial mucous membrane; the tongue has a brownish, nasty fur on it; loss of appetite, pains in the bowels, especially in the epigastric region; nausea, vomiting, and often a diarrhea. There is more or less melancholia, extreme debility, tenderness of the skin; dullness of intellect is common.

The duration ordinarily is about four days to seven days. Relapses frequently occur. One attack seems to render the subject extremely susceptible to other attacks, and it is a good deal as the Irishman said of his case, when he had La Grippe: "He was sick six wakes afther he got well."

The complications are usually those of a bronchial or pneumonic character, leaving the patient with a severe, hoarse, harsh cough. Headache is a common sequela; neuralgia, enlargement of the glandular system, especially the lymphatic glands. Many cases of consumption date their origin to an attack of La Grippe. The prognosis depends to a great degree upon the strength of the person attacked, and the kind of treatment. The extreme prostration of the patient is the prominent characteristic symptom. Its sudden onset is likewise a source of differentiation from a bad cold.

THE TREATMENT.

All of the symptoms of this disease point to a cerebro-spinal nervous affection. The excessive disturbance of the whole intestinal tract and the severe muscular pain indicate a disturbance of the sensory and the sympathetic nerves. The equilibrium of these forces (or conductors of forces) is disturbed. Atmospheric influences, cold, have produced capillary congestion in the posterior terminal filaments; hyperesthesia ensues; capillary congestion results from stenosis of the capillaries; decomposition of the blood ensues, and the absorbed poisonous materies morbi, mistaken for the bacillus, produces extreme prostration, vomiting, diarrhea, etc. Now what is the indication?

In this affection the spine must receive our special attention, pressing steadily for two to five minutes on the upper cervical and then the brachial, dorsal, lumbar and sacral regions once or twice a day. The neck should be thoroughly treated, and a general and thorough manipulation should be given, but more especially the spine and chest should receive attention. The chest and heart treatment, raising the clavicles, stretching the cervical vertebrae, and the whole spine, takes off the pressure, and the treatment of the spine strikes at the root of the whole difficulty. If properly treated, the pain is at once relieved, and no bad consequences follow. To free circulation is the prime object in this affection. Watch complications and meet them promptly by appropriate treatment. Let the patient use plenty of water, bathing, drinking it, and ablute the spine once or twice a day at least. Keep special watch of the glandular system, the heart and lungs, free the circulation; treat the twelfth dorsal to energize the kidneys. Elimination must be looked to especially in this, and all poisonous infections—an exchange of excesses for normal commodities should be surely made.

The proper stimulation of the spine relieves the prostrating symptoms as well as the congestion. Restoration should be rapid, if no food is allowed until the secretions are

restored to a healthy condition. The thing the Osteopath will have to contend with will be the prejudice of the masses. The old way is so thoroughly fixed in the mind that no other way seems to them the right thing to do. The idea of curing such an affection with manipulations seems to be the height of ridiculousness and absurdity. It is our experience that these manipulations act like magic in this affection, frequently aborting the whole process at once, and if not, so modifying it that the patient is free from pain, weakness and lung or bowel complications, which in other treatment is not satisfactory. If a fever is allowed to run its course, what is the use of medication? The fever should be cured by removing the congestion, which is done by the manipulations indicated. The treatment should not be automatic, nor should the practitioner of this science become an automaton if he wishes to succeed.

CONTINUED FEVERS.

All fevers that continue with a steady progress, increasing gradually or persistently, without either a too decided rise or fall, are called continued fevers. Simple continued fever may be of short duration, and may be mild in character, and present no marked malignancy or perceptible lesions, and yet be fatal. So continued fevers should receive special attention during their prodromal or forming stage, for lesions may lurk somewhere in the system without pain.

The causes of fever: It is said by pathologists that fevers are caused by fatigue, exposure, atmospheric or sudden changes of temperature, excesses in eating, excitement, violent exercise, miasmatic influences, etc.

The symptoms: In the continued fever, the onset is usually abrupt, with a feeling of lassitude; then a chilliness or a decided chill; then a rise of the temperature of the body, pulse rapid and tense, headache, skin dry and hot, thirst, coated tongue, costiveness, scanty, high-colored urine, some-



PLATE XX.—Showing Adduction of Thigh.

times nausea, vomiting, and in children there may be convulsions.

The duration varies from a few hours to several days. The temperature within a short time will reach as high as 103 degrees, or even higher. This may continue for a day or two, and then there appears a condition called "a crisis." This is an abrupt termination, usually with some critical discharge, and it may continue without any special change, only a gradual falling, and terminate in a normal condition. There appears usually, as the fever subsides, herpes on the lips and around the nostrils. This is recognized as a termination of the fever.

THE TREATMENT.

An important thing is rest in bed. Relieve the contents of the colon of any accumulated feces by non-irritating clysters, such as warm water, followed by the constipation treatment, if necessary. Bathe the body all over (in a bath is the preferable way) every three hours to every twenty-four hours, as directed for general treatment of fevers. Frequent sponging of the body is admissible at any time. Warm water is preferable usually. If there are pains in the abdominal viscera, use cloths or towels wrung out of warm or as hot water as the patient can bear, applied to the abdomen, covering the whole of the bowels; then cover all with a dry towel, and repeat this process as often as the cloth becomes a little cool or too dry, until all pain and fever subside. Give no food of any kind. Let the patient have water at short intervals, say every half hour, either hot or cold. Stimulate the vasomotor region gently from five to ten minutes, as often as desirable to regulate the action of the circulation, stimulating down the spine gently on either side of the spinous process every four to six hours, and see to it that all obstructions to the circulation of the blood in the neck are looked after.

TYPHOID FEVER.

This affection goes by several names, and on account of its affecting the whole system, it is hard to miscall it. The common appellations it goes by are: Enteric fever, gastric, nervous, mesenteric, autumnal, typhus. It is said to be acute, self-limited, due to specific poison, and comes on gradually, usually with nose-bleed, dull headache, stupor, mild to raving delirium, red tongue, gradually turning brown, cracked sordes on the teeth and gums, abdominal tenderness, diarrhea being also an early symptom, tympanitis, soreness and gurgling in right iliac region, rapid prostration; patient inclines to want to lie on the back, with knees drawn up. The lesions are always present in this fever, and they are found in Peyer's patches and the solitary glands. The various stages of this inflammatory process are: First, the infiltration, hardening, ulcerative, cicatrization. The spleen enlarges, and every gland and tissue in the body become involved and share in the effects of the lesions. The symptoms of the different stages need not be enumerated, for the variations only consist of increased and intense persistence of what have been enumerated, on up to the end of the fourth week, in severe cases; varying in mild cases, and simulating a mild attack of intermittent fever. The temperature varies from 101 degrees to 104 degrees during the twenty-four hours, assuming a regularity peculiar to that fever, and simulating remittent fever. The prostration increases as the fever varies, the perspiration is profuse, stupor persistent, especially during the fever; the tongue is intensely dry, hard and cracked, frequently bleeding; the brown sordes is thick, tenacious; pulse rapid, feeble; respirations shallow, quick; the secretions scanty and retained, and contain albumen; the stools are voided involuntarily; bedsores develop, and at this stage the patient usually succumbs—dies.

The medical profession has paid particular attention to this fever, and the almost universal verdict is: "You can't do anything to mitigate it; only good nursing." It seems that

their whole interest is centered in watching its ravages, and portraying its symptomatology, rather than to remove the cause that keeps up the lesion. To assume that this affection is caused by a bacillus, and sit by and watch that bug perform its destructive ravages without endeavoring to arrest him, try him, condemn him and execute him, is to be favoring a neutrality that is unwarrantable. It certainly does seem that something ought to be done to arrest the ravages of this disease, whether caused by a bug or resulting from the poisonous effects of the decomposed products of animal and vegetable matter combined.

This is another of the nervous prostration effects, and our attention should be directed to a restoration of the nerve power by removing the accumulated debris that feeds this virus—that enervates nerve power. All lesions anywhere in the body are the result of pressure somewhere, either at the origin, along the line, or at the end of nerves where they exercise their influence on the capillaries, preventing that influence in full or partially. Congestion at once results. The pent-up blood not passing on into the veins, or the waste material prevented from entering the lymphatics, on account of inability or deficient nerve force (and especially the motor filaments), results in lesion, and decomposition begins. The consequent effects of this poisonous product being resorbed into the tissues, thence carried to and entering into the blood, manifest themselves in every tissue. During the prodromic stage is the time to arrest the whole trouble. Take Off the Pressure before the mischief ensues. This can not always be done, nor is an opportunity always afforded, because the patient does not always know what is producing the indisposition that culminates later in the typhoid state, so that the physician is not called in until the ravages have become prominent and the lesion is doing its destructive work.

At this place we take the liberty of presenting the workings of the two forces that constantly play a part in the wel-

fare of the human body. These understood, will aid us greatly in our treatment of all diseases of an inflammatory or destructive character, resulting from lesions. The Positive and the Negative forces are manifest through certain nerves, and these properly stimulated produce effects in the parts of the body where terminal fibers are distributed. We demonstrate our position and verify results almost positively in the Osteopathic treatment for pains in the stomach. It is certainly proven that the Positive Pole of a galvanic battery, exercised through a needle introduced into the flesh, produces contraction of tissue, and that the Negative Pole of the same battery breaks down or destroys tissue. These facts lead us to the conclusion that the same sort of influence is exerted in the human body, and our experiments and application of the science of Osteopathy have abundantly demonstrated these facts. That the Spinal Nervous System exercises Negative influences, and the Pneumogastric Nerves produce the Positive influences, results fully corroborate. These facts constantly held in mind, our treatments result as we deem best, provided intelligence is the chief factor exercised—(and not automatism).

The pains anywhere in the body are due to "pressure." Whether this pressure be due to irritation of the nerves that supply muscular fiber, causing contraction upon nerves, or to partial paralysis of end nerve fiber by the accumulation of blood or waste material pressing on surrounding parts, the results are the same—decomposition ensues. If simply enough irritation is made to produce contraction on sensory end filaments, pain is the result. This force is conducted usually through sensory nerves, directed to the parts, because of the separation of the motor filaments from the sympathetic end filaments. Coordination of the nervous system must be had everywhere to produce harmony. If pressure is taken off, this state of affairs exists, and health results. If the accumulated precipitant, due to stagnation, and arresting peristalsis, remains in the tissue in the immediate vicinity of

the capillaries and paralyzed nerve filaments, is not removed, decomposition ensues, friction takes place, fever is the result. The fever (heat) evaporates the watery portions of the blood, the carbonic oxide increases, and deoxygenation of the blood becomes responsible for the results. To be healthy, the blood must be regularly oxygenated; to receive oxygen, it must circulate to the lungs and skin. We recognize the locality of the lesion generally by the pain in typhoid fever, it being a prominent symptom, especially in the right iliac fossa. This condition is an early indication of its presence. The whole intestinal tract becomes involved, from the foul tongue to the fecal discharges from the bowels. The upper portion of the alimentary tract seems to be directly under the Positive influence down as far as the stomach, and the balance of the course is under the Negative influence. The one produces contraction of the muscular system, therefore a sense of tightness, contracture, impediment in the circulation of the blood, stupor as a result, headache, feebleness and soreness of muscles, a drawn expression, secretions lessened, tongue dry and cracked; and in the lower half of the body the reverse—especially in the lumen of the intestines; a relaxed state, secondarily at least; discharges from bowels, a breaking-down of the mucous membrane of the ilium, and in fatal cases, perforation. It seems to present a condition of disconnection of the two poles, and as both of these forces are controlled by the organic nerves, it becomes apparent that there is a failure of connection of the end filaments of these, one set being separated from the others, and disaffection is the consequence. Therefore, to right the trouble, a proper union must take place. Our means of bringing about this desirable consummation, that harmony shall once more reign, and order come out of confusion, are at hand. The connection is established through the spinal nerves—the splanchnics very largely. But to reach a condition that these nerves may exercise their wonted influence, the pressure must be removed—the debris must be removed

—then connection can be established. The supply of water should be furnished, ingesta should cease until the accumulated rubbish is removed, and the receptacles prepared for taking care of it; and this is done satisfactorily with the supply of water furnished to the system in the right manner, remembering that about 70 per cent. of the whole body is water, and that that commodity has been evaporated by the heat (the fever), and the elementary substances held in solution by the water have precipitated, become incompatible, non-assimilable, and must be resolved and the waste tissue washed out, so that connection to end nerve filaments can be re-established; then the forces are normal, action begins—normal action—which is nature's own method of surmounting the difficulties resulting from congestion.

THE TREATMENT.

The manipulations should begin at the vaso-motor center, or at least as near to it as possible (and that is at the back and upper portion of the neck), holding the fingers firmly there from two to five minutes, and then stretching the neck by placing one of the hands on back of neck and the other under the chin; make gentle traction, then a rotary movement each way from a normal position; then move all of the muscles of the neck carefully, deeply and effectually, lifting them from their moorings; then raise the clavicles, stretching all of the chest and intercostal muscles, using vibratory movements over the abdomen, stomach, liver, spleen and pancreas. Turn patient on the side, raise the arm, pressing fingers of other hand against the sides of spinous processes, and while extending the arm, use pressure upwards and outward along the spine, on down as far as the twelfth on either side. Manipulate lumbar region, using vibrations freely. This should be done daily, or perhaps twice each day, provided care be taken to treat mildly. The tympanitis should be relieved by warm water injections into the bowels, and by hot applications in the form of towels or cloths wrung

out in hot water and placed on abdomen. Water should be administered to the patient (to drink) in small quantities, every half to one hour. Frequent sponge bathing should be used. The whole body should be bathed in water of a temperature of 80 degrees from ten to fifteen minutes, every three to twenty-four hours, and the head wrapped in a wet towel while bathing; the patient should then be wrapped in a dry sheet or thin blanket, placed in bed, and allowed to rest and sleep. These measures should be repeated daily as long as there is any fever. Give *no* food nor fruits of any kind until the tongue *cleans off* and becomes normal, and the patient calls for food. Then is time enough. Do not be uneasy about starving your patient. This is the proper course. If there is too much action of the bowels, press the knuckles against the left side of the twelfth dorsal vertebra for five minutes, steadily, firmly, bending shoulders backward, or stretching the leg backward, with thumb on left side of the vertebra named. This course of treatment will be eminently satisfactory in its results, and the mortality need not be anything, if treatment is begun in any reasonable time.

YELLOW FEVER.

Synonyms: Yellow Jack, bilious malignant fever, black vomit.

This is an acute, infectious disease, paroxysmal, and usually divided into three stages: The Febrile, the Remission and the Relapse (or the collapse), characterized by violent fever and yellowness of the skin of the whole surface, and "black coffee-ground vomit." It seems to be a specific poison, raging in the Southern States, at high temperatures. It is not due to malarial poison, usually prevalent during the summer months. In some places in the South it is never absent, and in other localities it comes periodically. Neither age, sex, race, nor social conditions show any preference to the disease. The peculiarities of the disease may not

be uninteresting to know, therefore we here present some of the pathological symptoms: The skin assumes a yellowish, lemon-colored appearance; the blood seems to be dissolved to a greater or less degree; heart seems to be softened, the stomach veins deeply engorged; mucous membrane seems to peel off, and the excreta present the appearance of coffee grounds, consisting really of blood and mucus, epithelial cells and debris. The intestines take on a similar condition. The liver is yellow, and fatty degeneration of the cells is a frequent accompaniment. The kidneys assume a granular degeneration, but there do not seem to be any morbid or pathological changes in the spleen. The pulse runs high, and the temperature rises from 104 to 106 degrees in a few hours. Severe neuralgic pains in the head, limbs, stomach, back and joints; the patient is extremely restless, delirious; urine scanty, acid, high colored, and contains albumen, and has a peculiar odor (as well as the whole body), never to be mistaken after once inhaling it.

The Regular School of medicine regards the disease as "self-limited," and the only way to arrest its progress is in one or all of the three following ways: "Isolation, disinfection and depopulation." The Homeopaths have not said so much, but regard it as a curable affection. The question is, What has the Osteopath got to say about the treatment for this disease? To retire from the conflict and acknowledge defeat before a fight is the characteristic of cowardice. To even pretend to acknowledge that "there is no cure in Osteopathy for it," is a concession unworthy a great science. What is the matter that Osteopathy is not applicable to it, as well as to any other known condition due to capillary congestion? Think of a physician in the conflict with an enemy of mankind, and pleading inability to help because he has no knowledge of what to use, or how to use it if he had it, then to say: "No remedy in Osteopathy for it." What is Osteopathy for? What is disease? What produces disease? What is the matter in yellow fever that Osteopathy, properly



PLATE XXI.—Conclusion of Movement Shown on Plate XX.

and intelligently applied, will not relieve it? We say it will cure it, therefore we earnestly recommend it. The depopulation measure seems to be the most probable measure contemplated, judging from the Regular way of treating it. They utterly fail to adapt means to ends, or this writer is most egregiously ignorant of natural cause and effect—purgation, vomiting, diaphoretics and diuretics!

THE TREATMENT.

In the treatment of yellow fever it will be noticed that there is a diffusion of bile through the whole system, producing extreme yellowness of the skin. This state exists everywhere in every tissue in the body where blood can flow. The shortness of breath indicates chest contracture and diaphragmatic irritation—capillary congestion everywhere in the body—a congestion of the portal system and liver, as well as the breathing apparatus. The first thing to be done in the case is to relieve the capillary congestion. Begin with the vaso-motor nervous system, holding fingers on either side of spinous processes from three to five minutes, then gently stretch the neck, and manipulate all of the muscles of the neck; raise the arms, treating along down the back on both sides of the spines, clear down to the sacro-lumbar junction; springing the back by pulling the limbs backward, one at a time, patient lying on the side, manipulate the lower limbs; and then, with patient lying on the back, raise clavicles, stretch the arms up strongly, and at the same time press the fingers along the sides of the spines from first dorsum to the tenth (general treatment process). Now, with patient lying on the back, manipulate in a gentle manner the liver, stomach and all of the abdomen in a vibratory manner for a few moments. The treatment should occupy at least twenty minutes, and should be done gently, yet thoroughly, twice each day. The patient should receive frequent ablutions and baths, together with plenty of water to drink at short intervals, and supplied with the ferric phosphate and sodium phosphate, these two elements being deficient in cases with this

affection. The one supplies homoglobin and the other regulates the eliminative process. As in all fevers, do not feed your patient until the organs of digestion are ready to digest and assimilate and the tongue cleans off. Treat the spine in the splanchnic region at least twice daily; in fact, from the third to the tenth surely. The spine will be necessary to look after at frequent intervals, for the sickness of stomach, vomiting and diarrhea will require special treatment occasionally. With these general suggestions to the intelligent Osteopath there ought to be no difficulty in relieving any case of yellow fever. The vaso-motor area should be mildly treated when indicated from a too rapid or a too slow or any irregularity of the heart's action, and the vibratory movements along the dorsum and region of the liver. If you do not feed your patient, with the above directions followed, you will restore him to health by the treatment suggested. We have been thus particular and specific on account of there going forth from an Osteopathic writer the annunciation, "There is no cure for it in Osteopathy." Rest assured there is. Osteopathy is applicable to all pathological conditions, and that, too, with more certainty of relief than any other treatment—properly and intelligently applied. The more you know of it, the more confidence you will have.

INTERMITTENT FEVER.

This is regarded as ague, chills and fever, swamp fever, or malarial fever.

It is characterized by a cold, a hot, and a sweating stage, the phenomena observing a successive regularity, according to the type, and having a complete intermission, varying in the length of time from a daily paroxysm to several varieties of characteristics. The tertian, or every day; the quartan, occurring the first and fourth days; the octan, or that occurring every week or eighth day; the duplicated quotidian, two paroxysms every second day; the double tertian, daily par-

oxysm, but more severe every second day; the dumb or masked ague, an irregularity, and presenting peculiar phenomena. All ages and sexes are liable to this affection.

The causes are attributed to a peculiar bacillus malaria from the low-lying atmosphere in swamp and marshy districts. There are numerous varieties of these bacilli! The period of incubation of this disease varies from a few days to several weeks. This is another fruitless search for a bug! It is strange that this malarial bug—the ague producer—vanishes into thin air at the presence of an Osteopath! A slight move of the spine in a certain direction, in a particular manner, scatters this beast, and he leaves his lurking place as completely as if he were a soldier under marching orders. All is quiet and serene as a May morning at the presence of the manipulator. Singular, isn't it?

Symptoms: Each paroxysm has three stages—the cold, hot and sweating. The cold stage begins with prodromes, lassitude, yawning, headache, nausea, followed by the chill; the teeth chatter, skin turns pale, nails and lips blue, and the surface rough; the appearance of goose flesh is a prominent peculiarity, and great thirst (in some cases), with a rise of temperature to 104 degrees. The chill may last from a few moments to one or more hours, and the hot stage is gradually ushered in as the shivering ceases, which is usually accompanied with a continued rise in temperature, reaching as high as 106 degrees in some cases, and with children to 107 degrees, and accompanied with spasms. The pulse now becomes full, headache and nausea increase, intense thirst, dry, flushed skin, scanty urine, sleepy, indifferent drowsiness settles down over the whole person, and this stage continues from one to three or four hours, when the sweating stage is ushered in gradually, beginning at the forehead and spreading over the entire body. The fever lessens, coming down to a normal temperature, and a general feeling of comfort returns until the next paroxysm. This paroxysm may come on the next day, but the tertian type is the most common; and there

may be an intermission of one day, when the patient will feel comfortable and revel in the hope that he will not have a return; but all at once he begins to yawn and stretch, cold, chilly sensations creep up his spine, the feet and hands and nose get cold, the lips turn blue, ears and face pale, eyes become somewhat glassy looking, and he soon settles down to a season of "shaking," characteristic of this kind of fever.

It is useless to state that the almost universal remedy for this affection is quinine. The resort to quinine is the almost universal custom; and yet it often fails to do what is desired. It seems to be the most successful in those forms characterized by the three distinct stages. Given in two- to four-grain doses, every two hours, until as much as twenty grains are taken, beginning long enough before the next expected chill to have taken the last dose of the quinine one or two hours before the expected chill. The quinine is to be repeated the fourth, seventh, fourteenth, twenty-first and twenty-eighth days, from two to four doses each day, as mentioned. Months are sometimes passed before the victim has immunity from this affection under the use of the very best selected remedy, or remedies.

The Osteopath neither gives the quinine nor protracts his case. The cure is effected at once, generally in one treatment. This silences all objection to this science with the suffering victim of chills (and the long dosing with quinine).

Sometimes this fever assumes a pernicious type; when the whole system becomes purple, the lungs become congested; in fact, the whole body becomes so, accompanied with severe pains in the lumbar region and abdomen, with delirium, severe headache, stupor, drowsiness, and sinking prostration coming on rapidly, when it is known as a "sinking chill." These are extremely dangerous types of the malarial fevers, and are regarded with fear. The intermittent fever is the bane of some districts, and about the only sickness. It seems to come on after all of the summer's work is over, and the farmer has begun his period of rest from his sum-

mer's labors. About two weeks elapse, and the chills set in, and frequently the whole fall months are passed with chills, then merge into some other type, such as typhoid or pneumonia, due to general exhaustion from long sickness.

THE TREATMENT.

This should embrace the whole person, beginning at the cervical region, moving the muscles thereof thoroughly, strongly, deeply; stretching the neck with rotation, and raising clavicles; raising arms; manipulating spine all the way down, pressing hard and for some time, from the fourth dorsal to the ninth, raising arms and pushing back the chest therewith strongly, requiring deep, full inspirations at the same time; treating the liver, spleen and abdomen thoroughly by vibrations and manipulations, stirring them up thoroughly; then, lastly, holding the fingers on the vaso-motor region from two to five minutes; then pulling the arms backward, with the knee against the back, two to four times, ending with the pressure at the eighth dorsal. This treatment, begun half an hour before a paroxysm, usually arrests it at once. Two or three treatments cure the worst cases.

REMITTENT FEVER.

Synonyms: Bilious fever, bilious remittent, marsh fever, typho-malaria.

This is a paroxysmal fever, with exacerbations and remissions, in which the temperature is constantly above normal. It has a moderately cold and an intensely hot stage, but the cold stage does not recur at each recurrence of the hot stage. There is usually an intense hot stage, with violent headache, gastric trouble, irritability, often vomiting. There is scarcely observed any sweating stage.

The cause is attributed to the presence of micro-vegetable organism, the generic species of which seems to be a little in doubt.

The symptoms: During the cold stage there is a moderate chill, the temperature rising one or two degrees, the tongue slightly coated, headache, pains through the body, and sick, oppressed feeling in the epigastrium. During the hot stage there is persistent vomiting; thickly furred tongue, pulse full, rapid, flushed face, injected eyes, severe headache, pains in limbs, loins, hurried respirations, temperature rising to 104 degrees, or even to 106 degrees; the bowels costive, stools tarry and very offensive, the urine scanty and highly colored, with uric acid present; the skin becomes yellow, and delirium is a common accompaniment. The sweating stage comes on in from six to twenty-four hours, when all of the above symptoms somewhat abate, or greatly modify, and slight sweating occurs, and the temperature may go down to 100 degrees, or as low as 99 degrees. This state may last a longer or a shorter period, called the stage of remission. After from two to eight hours the symptoms recur, generally minus the chill. This in turn is followed by a remission. These paroxysms go on for a period of from seven to fourteen days, but sometimes the fever ceases to remit; then it becomes continuous, simulating typhoid fever; then it is called typho-malarial fever.

It is said that this fever can be positively diagnosed by an examination of the blood, finding therein the bacillus malaria, and that as soon as this is gotten rid of, or eliminated, the fever subsides. As is the usual custom, quinine is the sheet-anchor in this fever. If some process could be discovered to open the gate and drive the bug out, what a saving of suffering to the patient!

THE TREATMENT.

This should consist of stimulating the vaso-motor area, the manipulations of neck muscles, freeing the chest muscles, and a thorough spinal treatment, and especially the splanchnic region. The bath and sponging the whole body at frequent and indicated periods may be done, and clysters of warm water and hot applications over abdomen and around loins

will be found soothing to the patient. Drinking water at frequent intervals should be particularly observed, remembering that in all fevers the per cent. of water in the blood is lessened by evaporation, and it must be supplied to hold in solution the poisons. Then the freedom of the circulation of the fluids restores the equilibrium.

PERNICIOUS FEVER.

Synonym: Malignant intermittent fever.

This is a malignant, destructive malarial fever, which may be intermittent or remittent in form, characterized by intense congestion of one or more internal organs, together with interference of the functions of innervation.

There are several varieties of this fever: The Gastro-enteric, producing intense nausea, vomiting, purging, tenesmus, burning in stomach, intense thirst, cold feet, cold extremities, shrunk features, and a general and intense depression of all of the vital forces. This condition may last from a half an hour to several hours, when an intermission or a remission occurs. There is also a Thoracic variety, characterized by intense congestion of the lungs, with violent dyspnœa, gasping for breath, fifty or sixty respirations per minute, oppressed cough, frequent, weak pulse, cold surface, and distressed-looking features. Then there is a Cerebral variety, characterized by intense congestion of the brain, effusion sometimes of serum into the ventricles, violent delirium, followed by stupor, coma, slow, full pulse; flushed or livid surface of the whole body. There is also a Hemorrhagic variety, called the yellow disease. It is followed by nausea, vomiting, dyspnœa, severe pains in the region of the liver and kidneys, bloody urine, yellow surface of whole body. There is also what is termed an Algid form, characterized by intense coldness of surface of the whole body, with a temperature internally of 104 degrees to 107 degrees, with a cold and clammy perspiration, cold breath, voice feeble, indistinct;

pulse slow, feeble, almost imperceptible at the wrist; and yet, with all these symptoms the mind remains clear and distinct, while the countenance looks death-like in appearance. This fever may last from a few hours to a few days. It is intensely malignant, and the subject rarely survives a third attack. It is a lamentable fact that all varieties are unfavorable, unless it can be controlled before the second paroxysm. The mortality is about 15 per cent. This fever is the most dreaded of all except the "Yellow Jack," and is equally as fatal.

THE TREATMENT.

The treatment usually instituted is of a character that seems more like an attempt to obscure still further the inner workings of the malignancy of the affection. When it is manifest that important organs are paralyzed from congestion, to give opiates that still further arrest tissue change and impede circulation, seems altogether wrong, destructive, and uncalled for. The perniciousness is wholly due to the impediment to the circulation. This is due to overstimulation of nerve centers from poisonous malarial influences. The restoration of the circulation is the all-important thing, and the thing that must be effected before recovery can possibly be expected. When it is understood that the splanchnics are intercepted from performing their functions, thus causing the congestion of the internal vital organs, the indications for treatment will become apparent. The spinal nerves control motion—the lack of motion causes the whole trouble; this can only be brought about through the spinal nerves. Then, beginning at the vaso-motor area, hold the fingers here until a regularity of the pulse ensues. After the vaso-motor area has been duly attended to, manipulate the neck muscles thoroughly, and attend to the elevation of the chest muscles, clavicle, arms, and the opening of the gateways from the brain—the jugulars; then pay special attention to the spine, all the way down, in the usual manner, giving special attention to the kidneys area. The thorough manipulations of the liver, spleen, and abdominal viscera should receive

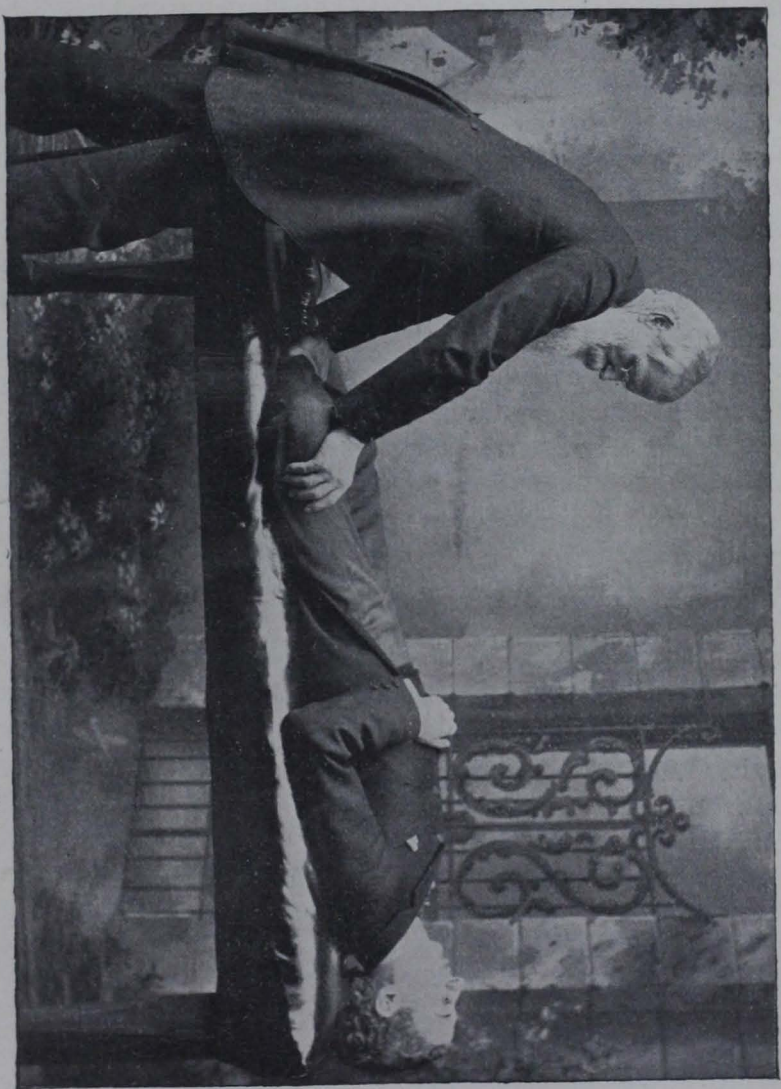


PLATE XXII.—Showing Abduction of the Thigh.

a good share of vibratory, regularly-applied attention, and a general treatment instituted as often as circumstances indicate and the patient is able to endure, remembering that in this condition, more than in any other form of fever, circulation is important, and without it recovery can not take place. The free use of water enemata should be one part of the programme, and water should be given the patient frequently as a drink. The sickness at the stomach may be overcome by treatment at the fourth to the eighth dorsal vertebra, stretching the right arm upward strongly at the time, lowering fingers each time the arm is raised and lowered, uniting the positive and negative forces. All of the rubbing should be from extremities toward the heart. Hemaspasia of lower limbs should not be lost sight of in this condition, and should not be neglected when a condition presents demanding its application. The sickness at the stomach should be overcome by the stimulation of the splanchnics. The vagi terminals may be reached about the fourth to the eighth dorsal, and more easily and effectually on the left side, as the left are more active and respond easier. The nerve influence obtained here controls Auerbach's Ganglion, a set of fibrillae in both the circular and longitudinal muscular fibers of the stomach, as well as intestines. The splanchnics uniting with the pneumogastric, forming the posterior portion of the solar plexus, control the action, sensation and motion, as well as reflexion of the intestinal viscera, and being reached through sympathetic filaments along the sides of the dorsal vertebrae, the peristalses that arise through irritation of the vagi, anywhere along the line, from the fauces to the ends of their remotest terminals, are controllable by stimulation of the dorsal region named.

To obtain the results at once, take hold of the left arm, stretch it out, pulling it up strongly above the head with one hand, and with the fingers of the other placed along the sides of the spinous processes, pressing moderately hard with ends of fingers, push the arm gently backward, pressing at the

same time with the fingers on the back as aforesaid, and let the arm be pushed downward over the arm of operator suddenly. This may be repeated one or more times, but usually once accomplishes the purpose. This treatment is applicable in all cases of vomiting from irritation of the fauces or along down the alimentary canal. The pressure with finger ends, raising body gently, at the same time without the raising of the hand, will frequently do the work.

ERUPTIVE FEVERS.

These all have a period of incubation, characterized by more or less fever preceding their eruptive stage, each with its own peculiarity. The period of childhood is most common for these fevers to occur in. They usually occur but once in the same subject. Their origin seems to be still wrapped in mystery—undetermined.

SCARLET FEVER—SCARLATINA.

This is an acute, self-limited, contagious, infectious disease, usually of childhood. High temperature, rapid pulse, diffused scarlet eruption, terminating in desquamation of the skin, mouth and throat, and affecting, more or less, the nervous system. It is an inflammatory condition of the skin—a dermatitis. The cause is supposed to be a specific poison, highly contagious. There are three varieties of the affection: Simplex, Anginosa and Maligna. In the mild cases the fever is trifling.

The onset is decidedly sudden, ushered in with a chill, pain in the throat, and followed by high fever, running up to 105 degrees, with rapid pulse (110 to 140 per minute), and at the end of twenty-four hours a scarlet rash appears on the neck and chest, spreading over the entire body rapidly, and in a few hours the eruption presents a spotted appearance, with normal skin between the scarlet spots. When the erup-

tion occurs there is a burning sensation of heat on the surface, the throat becomes painful, a catarrhal exudation ensues, and a difficulty of deglutition supervenes; the tongue is furred and later dry and red, with prominent papillae, of a "strawberry hue"; headache, great restlessness, and in some cases delirium and spasms; diarrhea is quite common. On the fourth or fifth day the fever declines, and the sixth to the eighth day desquamation begins, continuing for two or three weeks. Convalescence is nearly always slow, emaciation marked, and the sequelæ dreaded, as it affects the whole system, leaving in some cases a sore throat, otorrhea, chronic diarrhea, subacute rheumatism, chorea, endocarditis, pleuritis, acute Bright's disease, and cutaneous dropsy, as well as general anasarca.

The treatment of this affection and the success following Osteopathic treatment has been the most satisfactory of any ever known, and if it would not cure anything else, it deserves to be crowned with a golden wreath, filled with costly jewels of the most precious kind. It has surely demonstrated itself as the most efficacious measure ever tried for this affection.

THE TREATMENT.

The manipulations should be made carefully, thoroughly. Begin with the vaso-motor nervous system, holding the fingers there firmly from two to five minutes. This regulates the arterial circulation of the blood. Now begin at the sides of the neck, manipulate all of the muscles gently, deeply, thoroughly, raising the clavicles so as to free the neck veins, that all of the lymphatics may empty themselves into the jugulars; raise the arms successively, treating the spine on either side of the processes, as low as the lumbar vertebrae; then hold the hands on either side of the spines of the lumbar vertebrae, fingers pressing close to spines; raise gently the loins, letting the head and feet barely touch the bed, holding the body thus suspended for a moment. This corrects the bowel trouble at once. The vaso-motor area is to be looked

to and fever subdued by gentle pressure here occasionally. Manipulate all of the muscles of the neck thoroughly, beginning up close under the chin and angle of the jaws, occasionally stretching the neck, but being careful about rotation often, remembering that children should not have too much stretching and rotating of the neck. The outward movement of the spinal muscles should be made, and the rotary vibration movements used on the back from the region of the scapula all along down the back, and on the chest and abdomen. Frequent bathing in warm water, afterward wrapping patient in dry blanket or sheet, and anointing the whole body with olive oil, rubbing the body in a rotary vibratory motion, with the hand moistened with the oil, answers a double purpose. In this, as in all fevers, do not be anxious about feeding your patient. Nature will assert itself when the tongue cleans off and the glandular system has recuperated from the nervous shock; then, and not till then, is it proper to indulge in food of any sort whatever. Use water internally and externally, as suggested in other fevers.

This treatment is applicable in all of the eruptive fevers and throat affections. The philosophy of all Osteopathic treatment is to remove the pressure, and the means to accomplish this depends upon the indications in each individual case, and should not have to be suggested to the intelligent Osteopath in every form of disease, but should suggest itself to him in all cases and under all circumstances, as presented. The object to accomplish in all cases is to take off the pressure. No trouble exists or can possibly ensue where this is done. Remember that stagnation or stasis of blood produces chemical changes that result in pathological conditions that we denominate disease. Disease is the very thing we are called upon to cure. "How is it cured?" should be constantly thought, and the "how to do so" is to take off the pressure, wherever it is, and in the best manner, and as rapidly as the nature of the case will permit. Do not stand by, like the Frenchman, for an introduction, or a suggestion to do the

work. Go at it with a determination to accomplish it, intelligently, and do it. If you do not know what to do, when, or how to do it, step down and out, and send for somebody who does. Don't let your patient die on account of your impudence, stupidity and ignorance. Osteopathy means something. It means relief to the afflicted in the hands of sensible and intelligent manipulators. None others should tamper with disease that demands an intelligent familiarity of the science. This book will enlighten very one who studies it on all the means and measures necessary to successfully combat all manner of diseases, whether acute or chronic. We right conditions, but do not treat disease. Take off the pressure everywhere under all circumstances. That is enough.

MEASLES, SMALLPOX,

VACCINATION, VARICELLA, ERYSIPELAS, DENGUE.

These should receive almost the identical treatment, with the addition in smallpox of the sulphate of soda and the bitartrate of potassium. The excessive action of the Negative element calls for the use of the additional acid, and should be supplied because of a disturbance of the molecules of the sodium sulphates, hence the breaking-down of the skin. Give the patient an acidulous drink all of the time in smallpox, and do a large portion of the treatment along the dorsal region, especially in the region of the splanchnics, to normally combine the Positive and Negative forces, neutralize the excessive alkalinity of the blood that is breaking down the integumentary tissues. The application constantly of castor oil to the surfaces exposed to the air, should be strictly attended to, to prevent pitting, from the suppurative stage on. Acidulous baths are strongly indicated in suppurative diseases of the skin. When it is known that the two poles of the human battery control the acid and alkaline substances of the tissues, and that the one contracts tissue and the other dissolves it.

their uses and the manner of controlling them will become apparent in the restoration of these diseases, as well as all others. We reach these poles, or regulate their action, through the organic nervous system, producing the conditions desired at will.

ACUTE GENERAL DISEASES.

PAROTIDITIS.

SYNONYMS. Parotitis; mumps.

DEFINITION. An acute specific infectious inflammation of one or both parotid and other salivary glands and the surrounding connective tissue, with a very strong tendency to migrate into the mammæ or testes; characterized by pain, swelling, and disordered function of the glands.

CAUSES. A specific poison. Contagious. Occurs in epidemics, although isolated cases are seen. Males more liable than females. The most common ages between five years and puberty. As a rule, it occurs but once in the same individual.

The period of incubation is from two to three weeks.

PATHOLOGICAL ANATOMY. There is inflammation of one or both parotid glands, and in severe epidemics the cellular tissue pervading the gland is involved.

The catarrhal inflammation begins in the gland ducts and rapidly extends to the gland proper. There are congestion, swelling, and an infiltration of serous fluid, with more or less infiltration of the adjacent tissues. The swelling may suddenly reach an enormous size and as suddenly decline, the gland returning to its normal condition, or, rarely, an abscess results, with partial or complete destruction of the gland. Occasionally the submaxillary gland is involved, also the mammæ and testes.

Metastatic parotiditis occurs secondary to severe blood-poisoning, as in pyæmia, typhoid or typhus fevers, or diphtheria. The usual termination of secondary parotiditis is by suppuration and destruction of gland structure.

SYMPTOMS. The onset is rather sudden, by malaise,

chill, fever, 101-103 deg. F., quick pulse, headache, dry skin, scanty urine, followed within a day or two by stiffness at the jaw, swelling of the parotid and other salivary glands, pain increased by moving the jaws, with general œdema of the affected side of the face, at times the skin being reddened. Salivation is frequent, and occasionally deafness occurs.

The swelling and other glandular symptoms subside about the sixth or seventh day, to be followed by restoration to health, or, what is more common, the involvement of the opposite gland.

At any time during the disease metastasis to the mammæ, ovaries, or testes is apt to occur, when the symptoms peculiar to such affections will be added. It has been noted that a continuance of the temperature after the decline of the parotid symptoms has begun, usually is significant of metastasis. It is claimed that the involvement of other organs during the course of mumps is not an example of metastasis, but is a true transfer of the disease.

DIAGNOSIS. An error seems impossible.

PROGNOSIS. Simple mumps, favorable; the chief danger being from the altered function of the mammæ, ovary, or testes after metastasis.

THE TREATMENT.

It seems singular that Osteopathy should come into requisition when pathologists inform us that this is a self-limited disease; but, like all other pathological conditions, capillary congestion here results in disease. The removal of the obstructions cures the disease. The proper method of treatment, then, is to manipulate close up under the angle of the jaw, and relieve all contracture in muscles in that region; then stretch the neck, as directed elsewhere, twisting it at the same time, and then manipulate all of the muscles of the neck, raise the clavicles, arms, chest; stimulate the vaso-motor area. The glands are easily relieved of their contents, and will be rapidly disengorged by manipulating them as directed for a

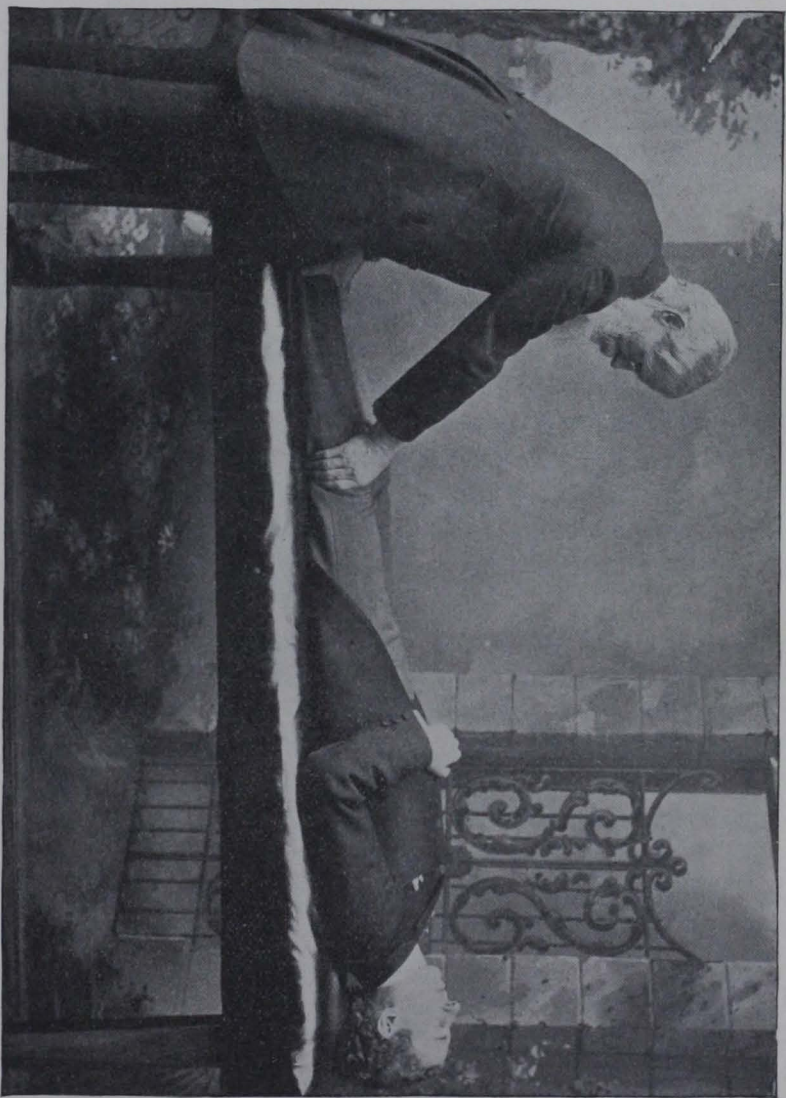


PLATE XXIII.—Conclusion of Abduction of Thigh.

few moments; removing soreness gradually by the beginning of manipulations at the outer edge of the soreness. In this affection, general treatment should be had every day, and the disease may be reduced to a minimum, and by avoiding exposure to cold, no danger of metastasis. Should that occur, follow up treatment. Gentle treatment daily, or twice a day, relieves and shortens the disease and mitigates the suffering greatly.

DIPHTHERIA.

SYNONYMS. Putrid sore throat; malignant ulcerous sore throat; malignant quinsy; membranous angina.

DEFINITION. An acute, specific, constitutional disease, both epidemic and contagious, beginning by an affection of the throat, characterized by a local exudation and glandular enlargements; attended with fever, great prostration of the vital powers, and albuminuria, and having for its sequelæ various paralyses.

CAUSES. A specific germ, the Klebs-Loeffler bacillus. It is pre-eminently a disease of childhood. It is apt to recur in those who have once been affected. All conditions of bad hygiene increase its virulence and diffusion, although the chief cause of its spread is contagion.

The poison exists in the exudation and secretions of the fauces and saliva, but not in the breath, and floats in the atmosphere at a considerable distance from the patient. The virus adheres to the clothing, the bedding, the furniture, and the room which the patient occupied.

The period of incubation is from three to five days.

PATHOLOGICAL ANATOMY. The diphtheritic inflammation differs from either the croupous or catarrhal form, in that the exudation is not only upon, but also within, the substance of the mucous membrane.

At first there is redness, which may begin in any part of the throat, associated with swelling and an increased secretion

of viscid mucus. The redness spreads over the entire mucous surface, when the exudation makes its appearance. The deposit may commence from one or several points, such as one tonsil, the soft palate, or the back of the fauces, which, however, speedily extend and coalesce, forming extensive patches, or cover uniformly the entire surface.

The patches are of variable thickness, which is increased by successive layers being formed underneath.

The color is usually gray, white, or slightly yellow, but may be brownish or blackish, the consistence ranging from "cream to wash leather."

On removing the membrane, which is accomplished with more or less difficulty, a raw, bleeding surface is exposed, and at times an ulcer, which is speedily covered with a fresh deposit.

If the exudation separate itself, it is either not renewed at all or only in thinner films.

The exudation or membrane, examined by the microscope, is composed of fibrin, pus corpuscles, epithelial granular cells, and the Klebs-Loeffler bacillus and other pathogenic bacteria.

If the larynx, trachea, or nasal mucous membranes participate in the disease, the croupous and not the diphtheritic form of inflammation occurs.

The lymphatic glands of the neck, whose vessels originate in the faucial tissues, are enlarged and inflamed, and contain large numbers of bacteria, probably originating as the result of decomposition.

The muscular tissue of the heart becomes soft, is easily torn, and its fibrillæ are far advanced in granular degeneration. Ulcerative endocarditis has been frequently observed.

The kidneys undergo a granular degeneration in severe attacks.

The blood undergoes alteration, being black and fluid.

SYMPTOMS. Following the law of contagious diseases, the symptoms vary in intensity in different cases, the promi-

nent symptoms being often disproportionate to the gravity of the attack.

The invasion may be mild, with rigors succeeded by moderate fever, headache, languor, loss of appetite, stiffness of the neck, tenderness about the angles of the jaw, or slight soreness of the throat.

In other cases the invasion is more abrupt and severe, with chilliness followed by great febrile reaction, 103 deg. to 105 deg. F., pain in the ear, aching of the limbs, loss of strength, painful deglutition, and swelling of the neck, compelling the patient to take to bed from the onset.

The appetite is poor, the tongue slightly coated, sometimes more or less exudation appearing upon it, the bowels being either regular or slightly relaxed. The pulse, at first full and strong, soon becomes either rapid or slow, but compressible. The urine is scanty, high-colored, and contains albumen.

The local symptoms in the majority of cases are associated with the throat. The patient complains of a frequent and persistent desire to hawk, in order to clear the throat. On inspection, the fauces are seen red and swollen, and more or less covered with the diphtheritic exudation; sometimes the tonsils and uvula are greatly swollen and spotted with exudation. In severe cases, more or less ulceration or sloughing may be observed. Not infrequently fragments of exudation, the false membrane, are expectorated, with particles of the ulcerated tissues, having an offensive odor, which is transmitted to the breath. The lymphatic glands of the neck are enlarged and tender, and in severe cases the tissues of the neck are greatly tumefied.

Extension to the nasal cavities causes a sanious and offensive discharge from the nose, with attacks of epistaxis.

Extension to the larynx is indicated by hoarseness or complete loss of voice, croupy cough, and obstructive dyspnoea, which often becomes urgent, the breathing being noisy and stridulous, and subject to paroxysmal exacerbations. If

the inflammation extend to the bronchi, the breathing becomes still more embarrassed.

DURATION. Ranges from two to fourteen days, an average being about nine days, although complications and sequelæ may prolong its course.

Relapses are not uncommon.

SEQUELÆ. Those who recover from a severe attack remain often for weeks with a pale and cachectic appearance, due to profound blood alteration.

Paralysis is a common sequela, following the mild as often as the severe attacks. Usually not occurring until the patient seems fully convalescent.

Pharyngeal paralysis is most common, causing difficulty or inability of deglutition, fluids regurgitating through the nose.

Cardiac paralysis, bradycardia, is not infrequent, the pulsations descending to 60, 50, 40, and even to 20 per minute. Heart failure and fatal syncope may occur at any time during the disease.

Diphtheritic paralysis may affect the motor muscles of the eye, causing strabismus; the muscles of one side, hemiplegia; of the legs, paraplegia; and of the bladder, leading to retention of urine or difficulty in voiding it.

Multiple neuritis, with the attending loss of power, is a rare sequela.

Sensation is also diminished in the paralyzed parts.

DIAGNOSIS. From follicular ulceration of the tonsils, which is frequently termed diphtheria, by the slight or absent systemic symptoms, the ulcerated condition being limited to the tonsils, but often one, and the absence of glandular enlargement, and following palsies.

From pharyngitis, by the absence of exudation and loss of faucial tissue and constitutional symptoms.

From scarlatina, by the presence of the eruption and the absence of membrane in the fauces. The association of scarlatina and diphtheria must not be forgotten.

From membranous croup, by the difference in the constitutional symptoms; croup appears sporadically and is not contagious, diphtheria being highly contagious, and frequently occurs in epidemics; in diphtheria of the larynx, the depression is clearly that of blood-poisoning, while in croup the depression is in proportion to the mechanical obstruction of the respiration by the membranous exudation. The pathology of croup is simple and easy of investigation; diphtheria is obscure in its etiology and progress. The temperature record of croup is a high one until carbonic acid poisoning is imminent from the mechanical obstruction to respiration, while in diphtheria, the tendency to a decline in the temperature after the fourth day is nearly characteristic, regardless of the amount of laryngeal obstruction. In croup the pharynx contains no membrane, and is but slightly, if at all, inflamed, and associated trouble in the nose is of the rarest occurrence, the very reverse obtaining in diphtheria. In croup the laryngeal symptoms are from the onset, while in laryngeal diphtheria the pharyngeal symptoms almost always precede. In croup glandular involvement is a clinical novelty, as are subsequent palsies, while glandular involvement and various palsies are the rule in diphtheria. Albuminuria is the rule in diphtheria, seldom occurring in croup.

PROGNOSIS. Always grave, but more so in children than in adults. Its gravity, in the majority of cases, is proportionate to the local symptoms. The average mortality is about ten per cent.

Favorable indications are, moderate fever, strength slightly impaired, a good constitution, and moderate exudation.

Unfavorable indications are, high fever, great depression, spreading exudation, great swelling of the cervical glands, large amount of albumen, extension to the larynx and nasal mucous membranes, hemorrhages from the fauces and nose, and an epidemic character.

THE TREATMENT.

The neck should be thoroughly treated in this affection, beginning the treatment by stretching the neck. With one hand under the chin, the other on the occiput, pull gently till the body is seen to move, then rotate from side to side while elongated, then stretch without rotation, then go right on with the general treatment, treating thoroughly close up under the chin; then place finger in the mouth, press gently all around the inside of the mouth on the fauces, the palm of finger toward and on the mucous membrane, and remove the membrane, if loose. Raise the clavicles, chest muscles and arms; and general manipulations should be given to equalize circulation. Treat the vaso-motor area by pressure several moments. This regulates the arterial circulation of the blood, lessens the fever, promotes ease, rest. Treatment should be given every six to eight hours, and the disease yields, even the most malignant type, in a very few days' treatment. The nerves that control the action of the mucous membrane of the throat and the glandular system on either side of the neck, demand special attention, from the back and sides of the neck, and high up and close around under the jaw. Careful, gentle, easy manipulations result most satisfactorily, and do not produce pain in patient. If Osteopathy relieved nothing else, its worth in this affection can not be estimated. It is magical. The judgment of the manipulator should be exercised in regard to the length of time and how often treatments should be made. Also use the tissue elements Potas, chlor. and Sodium chlor.

RHEUMATISM.

Notwithstanding all that has been said, written and experienced and heard of noted cures, baths, springs, climates, altitudes, and localities, about causes and cures of this affection, it remains for an Osteopath to present to the world the cause of it—Impeded Capillary Blood Circulation.

At first thought it would seem improbable, but there is no possible argument against it. When the blood circulates in the capillaries properly, the normal functions of all of the blood-making material are properly performed, and a due proportion of all of the elements is kept up in every part, normal blood is manufactured. That condition keeps up in regular order from year to year through the whole round of years from the age of puling infancy to that of distorted shanks and biceps. A reference to the article on the Tissue Elements elsewhere in this book will inform the reader that these are the constituents of our physical organism; that these are largely the results of combination and manufacture from the food, after its introduction into the system, as the process of digestion is going on; that if there is a deficiency of material in the food, so that these normal elements can not be manufactured, confusion results; for to be healthy, these elements must be in the blood, for the blood is the fluid from which all of the tissues of the body are directly manufactured or nourished, and by means of the material therein the metabolism of the tissues that, no longer necessary, are to be eliminated or removed from the body. The specific gravity of normal blood is from 1.055 to 1.062, so say our physiologists, and from this fluid every tissue in the body draws its nourishment. Without certain elements in the blood, elimination of the waste material can not take place, so that we at once perceive the necessity of their presence in the blood. If these waste materials can not be, or are not eliminated, they must accumulate. If that waste be unconverted into fluid, precipitation ensues. That precipitant produces effects according to the nature of its constituents and according to the tissue in which the precipitant exists. The precipitation only ensues as a result of impeded circulation. It will be remembered that circulation is the principal manifestation of life, and is as essential as life itself, for without it life ceases to be manifest in the physical organism. It will be remembered that every tissue in the body has its special and exact proportion of

chemical elements, and that these are renewed and changed and exchanged for new material every moment of time throughout the whole of life, and that mind (divine mind) through the nervous system directs every change that is made in every department; that mind created the body out of the material it had made; gathered up such material from the great world, and placed every atomic cell in line; made it in such a way as that it would renew its forces in regular order out of the same material from age to age; placed in the most elevated realm of that body a watch that sees to it that every department shall perform its allotted labor, and that, as each department exchanges commodities, every other shall share in the profit or loss, the pleasure or pain, the good or the evil.

It is a known fact that precipitation only takes place in a state of rest—quietude. All acids precipitate into their peculiarly shaped crystals while the fluid from which they are formed is in a state of absolute rest. This rest, when applied to the circulation of the fluids of our body, results from arrest of onward flow of the fluids through their normal channels. The precipitate is also dependent upon the presence or absence of some one or more of the chemical elements in the solution—the fluid. All chemical changes take place in consequence of the added or diminished equivalent of the other material. Results are always proportioned to causes and circumstances controlling them. The variety of chemical changes that take place in the system may be imagined when we consider the number of molecules and their atomic composition. Remember that heat and cold effect chemical results, as well as the presence or absence of chemical constituents or equivalents.

Now, in rheumatism we have a disturbance caused by the precipitation of acid crystals of lactic acid, due largely to lack of sodium phosphate. The role that this salt exercises in the human economy is well described by Moleschott and Schusler. They state that it "largely consists of the catalysis of lactic acid in the blood, thus purifying that fluid from its

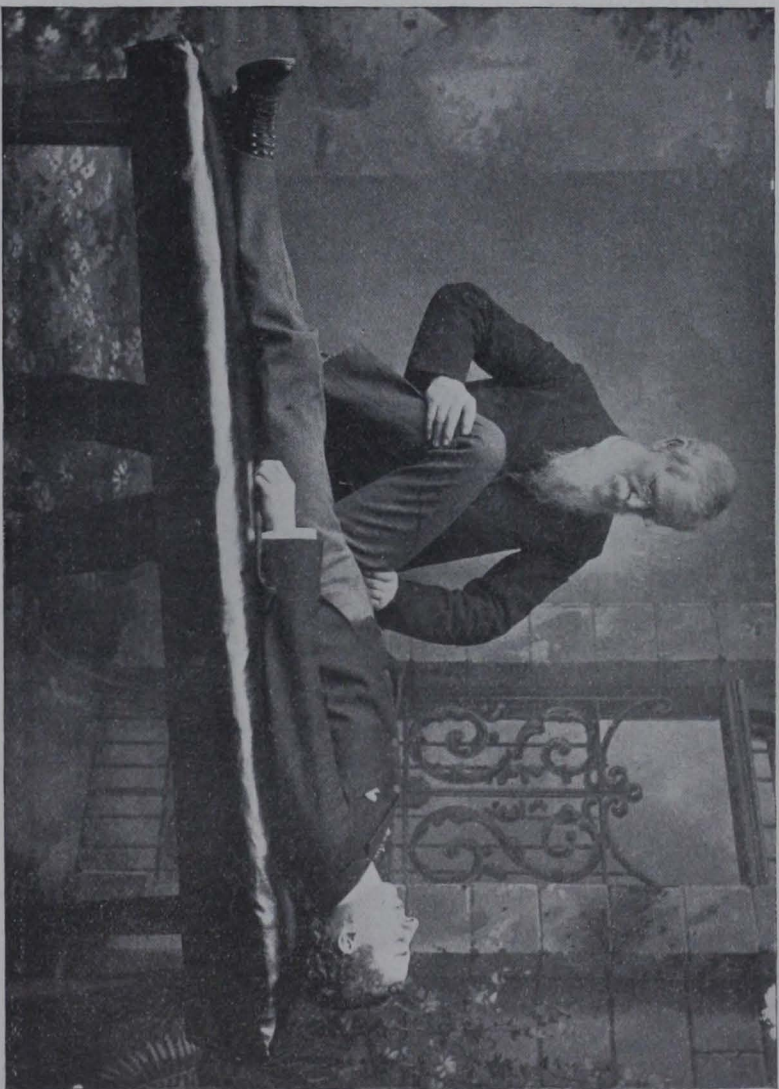


PLATE XXIV.—The Method of Treating the Saphenous Vein.

effete product of muscular function, which transforms stored glycogen into the acid. The liver is the prime and master laboratory of the animal body. It is essential to both the nitrogenous and the hydro-carbonaceous transformations, to the renewal and the depuration of the blood, to the production of glycogen and grape sugar from the starchy and saccharine food, and to the higher oxidation of uric acid, and other effete tissue principles, into urea, ready for elimination by the kidney, and by bile-formation contributes to the intestinal work. When inert this organ fails of this extensive function; when overactive, it exceeds it, and overproduction appears, with symptomatic effects. These functions are principally due to cell-action. There are two classes of functional or parenchymatous cells: the biliary, spread out as epithelium in the capillary branches of the ducts, in intimate relation with the vessels of the liver; and likewise with the remaining set of functional cells, viz., those of the hepatic acini, also lying in intimate relation to the blood vessels and to the biliary capillaries, with their glandular epithelium. This double duty belongs to the large cells of the acini, viz., the formation of glycogen and the formation of uric acid. In addition, the old red blood corpuscles are here in the liver, but in the portal system of veins now become capillary in the acini, are finally disintegrated, and the new-formed globules perfected. All of these varied functions, separate as they are, undoubtedly assist each other, furnishing necessary chemical changes, etc. The glycogen is believed to be mainly carried away in the blood current, to be stored in the muscular tissues, furnishing the motor energy thereto, and being chemically split into two parts of lactic acid. This acid aids in later vital functions of the body, and is at last transformed into carbonic acid and water, while circulating in the blood. This transformation takes place through the presence in the blood of the soda phosphate, and by a catalytic action of this salt. Any deficiency in this prevents this chemical change, and the lactic acid remains as such. An acid

state of the system now prevails; rheumatism, dyspepsia, intestinal troubles, etc., ensue. This acid state ceases and the consequences subside when the sodium phosphate is present or introduced into the system in proper quantities."

THE TREATMENT.

Our treatment, then, for rheumatism should be directed to the promotion of the circulation of the fluids of the body—onward. Then natural chemical changes take place. The sympathetic nerves control normal changes when not interfered with; when the communication from origin to termination of fibrilla is not intercepted. This obstruction is usually the result of lowering temperature on the surface (on the skin), causing contraction, thus mechanically squeezing terminal nerve filaments, modifying their functions, producing sluggish capillary peristalsis. Precipitation of acid crystals ensues; these pierce the sensory, terminal footlets; pain ensues, an intimation that interruption of circulation exists there, and calls for aid, or announces thereby that something is wrong. Now this is the simplest of the simple things to understand: Obstructed Circulation causes Rheumatism. The obstruction removed, the normal circulation continued, brings about a normal state—cures rheumatism. Whenever the proper elements are supplied, and the obstructions removed, disease of every form ceases. Health is the normal state when every organ is performing its natural function, and it will do that when the conditions are favorable. We have stated them.

Our general treatment, applied from once to three times a week for chronic ailments, is fraught with satisfactory results in the large majority of cases. To undertake to cure rheumatism without the circulation of the blood, or without the normal elements of the blood, would be the very height of nonsense; and to introduce a medicine into the body to promote absorption of deposits without a possibility of it being carried there through the blood, would be equivalent to trying to live without air, or breathe without lungs.

ACUTE ARTICULAR RHEUMATISM.

SYNONYMS. Rheumatic fever; inflammatory rheumatism.

DEFINITION. A constitutional disease, characterized by fever, inflammation in and around the joints, occurring in succession, and a great tendency to inflammation of either the endocardium or pericardium.

CAUSES. The predisposing causes are inherited tendency, scarlatina, and the puerperal state.

The exciting causes are exposure to cold and chilling of the body. Rheumatism rarely occurs before seven or after fifty years. The liability to the disease is increased by having had an attack.

PATHOLOGICAL ANATOMY. The blood contains an excess of lactic acid. The joints bear the brunt of the attack; the synovial membrane is reddened, the vascularity of the synovial fringes is increased; so with the synovial fluid, which is thinner, of a reddish color, containing some gelatinous coagula of fibrin, and under the microscope, nucleated cells, ordinary pus cells being rarely seen.

The swelling visible from the affected part depends mostly on inflammatory œdema of the connective tissue around the joint.

The pain is probably due, in all cases, to stretching of and pressure on the elements of the tissues by the dilated capillaries and the inflammatory œdema. For the changes which ensue when the endo- and pericardium are attacked, the reader is referred to the sections on those diseases.

SYMPTOMS. Begins suddenly, generally at night, with a chill or chilliness, pain and stiffness in the joints, loss of appetite, at times nausea and vomiting, followed by fever, the temperature soon reaching 102 degrees F. to 104 degrees, in rare cases 108 degrees to 110 degrees (the hyperpyrexia), the pulse seldom exceeding 95, great thirst, profuse acid sweats, scanty, high-colored, acid urine, at times showing traces of albumen, the bowels constipated. The fever con-

tinues throughout the attack, showing marked remissions. Delirium is absent, except the hyperpyrexia occur. Sleep is prevented by the pain and the profuse perspirations. The strength is moderately well preserved.

The skin is often covered with an eruption of miliaria rubra, red papules, and miliaria alba, the result of irritation at the orifices of the sweat glands, from the excessive perspiration.

The local phenomena are pain, tenderness, increased heat, swelling, and redness of one or more joints; if but one joint, it is termed monoarthritis; if more than one, polyarthritis. Pain is aggravated by motion and pressure. Swelling is most apparent in those joints not covered with muscle, to-wit: knee, wrist, elbow, ankle, and the hands and feet, and is proportionate to the acuteness of the attack. The inflammation may abruptly cease at one or more joints, and as suddenly attack others.

The disease is extremely irregular as regards the number of joints affected, although the local manifestations are controlled by an important pathological law, to-wit: the law of parallelism. Corresponding joints are often affected together, and when not, the different affected joints are either on one side of the body, or those on both sides which are analogous, as the knee, elbow, wrist, ankle, hip, and shoulder, are attacked together.

COMPLICATIONS. Pericarditis, endocarditis, myocarditis, cerebral endarteritis, bronchitis, pneumonitis, pleuritis.

DURATION. The duration of acute rheumatism is governed entirely by the presence or absence of complications. Uncomplicated cases recover in from thirteen to twenty-one days, although they may be prolonged to five or six weeks. Relapses are frequent.

DIAGNOSIS. A typical case can not be mistaken for any other disease, but cases running a subacute course may be mistaken for acute rheumatoid arthritis, gonorrhœal rheumatism, or pyæmia.

Acute rheumatoid arthritis attacks one joint at a time and becomes permanent, has slight, if any, fever, no sweats or cardiac lesions.

Gonorrhœal rheumatism is associated with a gleet discharge, or follows the sudden cessation of an acute or sub-acute gonorrhœal discharge, attacks either the ankle or wrist only, is slowly influenced by treatment, and lacks the febrile phenomena.

Pyæmia is usually manifested at a single joint at the time, and is followed by suppuration, and all the symptoms of hectic fever.

PROGNOSIS. Recovery is the rule in uncomplicated cases, the mortality being about three per cent. When death occurs it usually depends upon hyperpyrexia, cardiac complication, or cerebral endarteritis.

THE TREATMENT.

The general treatment, as far as possible, should be instituted, approaching the manipulation of the particular joint or joints affected cautiously. The neck, spine, shoulders, clavicles, chest muscles, and vaso-motor area should not be lost sight of. The kneading of the parts mostly complained of is essential, but the soreness is frequently so great that even the approach of the doctor toward patient is resisted with intensified horror by patient. Begin where there is no or but slight soreness. Go slow, deal gently, approach cautiously, and if you are a good coxer, you will have your patient easy in half an hour—up, walking about; but if you are a “rough” manipulator, that patient will turn you off and go to gulping down medicine, or have it injected hypodermically to get ease, and your cake is dough. Remember that venous obstructions cause the lymph to remain in the tissues, and pressure upon the sensory terminal nerve filaments produces the pain; hence a sensible regard for these end filaments may be had by lifting off the pressure. And this can be done by beginning around the edges of the painful spot. Remove contraction of muscles by opening the veins

at their junction with larger veins, and cause a *vis-a-fronte* force to pump the venous blood back, and drain the lymph channels, emptying them into the veins. Treatment should be made daily.

MUSCULAR RHEUMATISM.

SYNONYMS. According to location, to-wit: cephalodynia; lumbago; torticollis; pleurodynia.

DEFINITION. An affection of the voluntary muscles, inflammatory in character, either acute or chronic; characterized by pain, tenderness, and stiffness of the affected muscles. It is never complicated with cardiac disease.

CAUSES. A disease of adult life. One attack predisposes to another. Almost always due to cold or damp, or direct draught of cold air. Gout increases the tendency to attacks.

PATHOLOGICAL ANATOMY. The true nature of muscular rheumatism is not yet determined. Virchow suggests a "hyperæmia of, and scanty serous exudation between, the muscular striæ, and in chronic cases inflammatory proliferation of the connective tissue."

SYMPTOMS. The first attack is generally acute. Onset rather sudden, with pain in the affected muscles, with slight tenderness, and considerable stiffness and difficulty of movement, by which also the pain is increased.

The suffering may be severe and constant, or only on motion. Spasm of the affected muscles may occur. Objective symptoms are wanting, except it is evident that the patient keeps the affected muscles as quiet as possible. Fever is absent. The pain may prevent sleep.

Duration, acute form, about one week. Chronic returns frequently, and finally becomes constant and aggravated when the weather is damp.

VARIETIES. It may affect any or all of the voluntary muscles, but its most frequent and important varieties are:—

1. Cephalodynia. Situated in the occipito-frontal muscles. Distinguished from neuralgia of the trifacial, or occipital nerve, by pain on both sides of the head, excited or aggravated by the movements of the muscle and by absence of disseminated points of tenderness.

The muscles of the eye may be affected, and movements of that organ excite pain. If the temporal and masseter muscles are attacked, mastication excites pain.

2. Torticollis. Wry neck, or stiff neck. Situated in the sterno-mastoid muscles. Generally limited to one side of the neck, toward which side the head is twisted, great pain being excited on attempting to turn to the opposite side. Rheumatism of the muscles of the back of the neck, cervicodynia, may be mistaken for occipital neuralgia.

3. Pleurodynia. Situated in the thoracic muscles, and may be mistaken for pleuritis, or intercostal neuralgia, from which it is differentiated by the absence of the diagnostic features of each. Pain is excited by forced breathing, coughing and sneezing.

4. Lumbodynia or lumbago. Situated in the mass of muscles and fasciæ which occupy the lumbar region. Most common variety. Usually affects both sides. It may set in rapidly and become very severe. Motion of any kind aggravates the pain, often becoming very sharp or stabbing in character. It is sometimes complicated with acute sciatica, when the suffering is agonizing.

DIAGNOSIS. The different varieties may be mistaken for any of the following ailments, to-wit: trifacial, occipital, or intercostal neuralgia, pains of progressive muscular atrophy, neuritis, syphilis, metallic poisons, or painful affections of the loins, arising from calculi or gravel in the kidney.

A careful examination of the history is usually sufficient to arrive at a correct diagnosis.

PROGNOSIS. Difficult to eradicate, and in chronic cases to ameliorate, but is not dangerous to life. Death never results.

THE TREATMENT.

The same as for acute articular rheumatism. The principle is the same, the cause is the same—why not treat the same way?

The treatment for the wry neck consists in so manipulating the muscles of the neck that the capillaries shall be emptied. That is done by first stimulating the vaso-motor area, then put the muscles of the neck and spine on a stretch in the usual way; then manipulate the muscles, especially the sterno-cleido-mastoidei muscle, thoroughly, and lift the chin, with elbow under it (curved around the chin as shown in plate), pressing the head backward on the fingers of the other hand at the back of the neck, lifting and rotating and pressing at the same time. Go over all of the muscles involved in the affection at one sitting, occupying from twenty to thirty minutes. Treat slowly, thoroughly, and repeat the treatment every twelve to forty-eight hours. Have patient avoid sudden changes of temperature, for this is the cause of contracture of muscular fiber, and obstruction of venous circulation, and nerve pressure. This course of treatment cures in a month or two the worst cases, often relieving them at once.

RHEUMATOID ARTHRITIS.

SYNONYMS. Arthritis deformans; rheumatic gout.

DEFINITION. An inflammation of the joints, accompanied with but slight fever, without suppuration; progressive in character, causing nearly symmetrical enlargement and deformity of various articulations.

CAUSES. More common in females than in males, and in the weak and anæmic. Among the causes are bad hygiene, exposure, prolonged lactation, frequent pregnancies, menopause, grief, tubercular diathesis, and following attacks of articular rheumatism.

PATHOLOGICAL ANATOMY. It is not rheumatism, as the

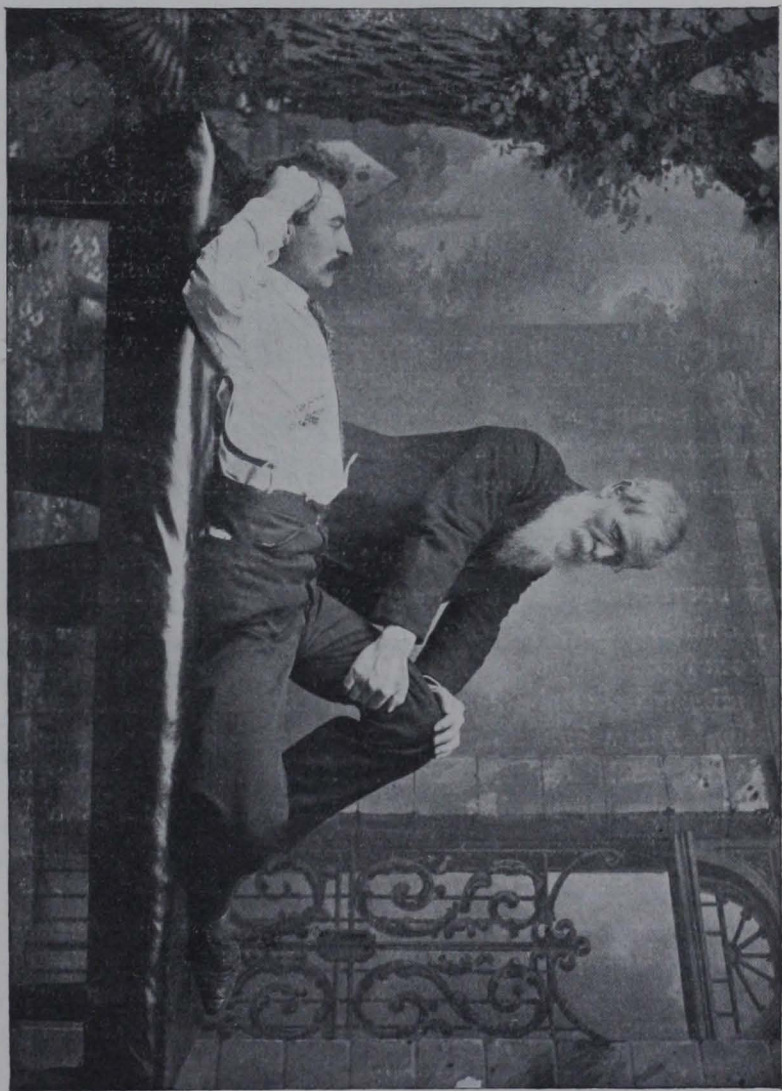


PLATE XXV.—The Manipulation of the Adductors.

blood contains no lactic acid. It is not gout, as uric acid is not found in the blood, nor urate of sodium in the joints.

At first rheumatoid arthritis is attended with hyperæmia of the affected synovial membrane, and increase of the synovial fluid. Soon the capsular ligament becomes irregularly thickened, the synovial fluid decreasing. If the process continue, the internal ligament is destroyed, thus allowing dislocation to occur. The inter-articular fibro-cartilages ulcerate and disappear, as do the cartilages covering the ends of the bone, the ends of the bones becoming smooth and eburnated, and often greatly enlarged.

SYMPTOMS. Either acute or chronic, the latter most common.

Acute form involves several joints at the same time, and is attended with slight pyrexia.

Chronic form slowly involves one joint, which seemingly soon recovers, and is attacked again, and may never recover, but grows progressively worse.

The joint slowly enlarges, is painful, movement exciting neuralgic pains along the limb. Soon the articulation becomes rigid or slightly movable after prolonged attempts. Redness and tenderness are wanting. Crepitation is distinct after ulceration has destroyed the cartilage.

The hands are first involved, the disease spreading symmetrically from articulation to articulation, until in severe cases every joint is deformed.

DIAGNOSIS. Chronic articular rheumatism is often confounded with rheumatoid arthritis; but the former lacks the marked structural changes and the progressive involvement of joint after joint.

Gout differs from rheumatoid arthritis by the presence of deposits of urate of sodium in the joints, the ears, tips of fingers, and the bursæ over the olecranon process of the elbow, the presence of uric acid in the blood, and the decided history of acute paroxysms.

Gonorrhœal rheumatism, so-called, has symptoms akin

to rheumatoid arthritis, but the history of urethral suppuration clears up the diagnosis.

Paralysis agitans, when pronounced, might be confounded with rheumatoid arthritis, if the examination were limited to the joints; but the whole history, such as the tremor, the gait, etc., should prevent error.

PROGNOSIS. If early treatment be instituted, the disease may be held in abeyance for several years. After pronounced structural changes have begun, the malady is incurable, although it may remain stationary for a long time.

THE TREATMENT.

General treatment must be given as in rheumatic articular affections.

The special manipulations should have reference to opening up the outlets—the veins, the lymphatic tubes—and relieving the pressure by the various manipulations according to special indications in given cases. These conditions are greatly relieved by persistent treatment.

GOUT.

SYNONYMS. Podagra, gout in the foot; chiragra, the hand; gonagra, the knee.

DEFINITION. A constitutional disease, usually inherited; characterized by the sudden occurrence of a paroxysm of severe pain and swelling in one of the smaller joints—the great toe usually—with the presence of uric acid in the blood, and the deposit of the urate of sodium in the structure of the joint.

CAUSES. Predisposing; inherited, male more than female—women after menopause.

Exciting; malt liquor and wine drinking; large consumption of animal food; lead poisoning; winter season.

When inherited tendency, may begin early in life; when acquired tendency, after thirty-five years.

The pathological cause consists in the presence of an excess of uric acid in the blood, in the form of urate of sodium.

PATHOLOGICAL ANATOMY. Gout is characterized by the deposit of urate of sodium from the blood into the structure of joints and tissues that are not very vascular. The deposit is associated with signs of inflammation, to-wit: hyperæmia, redness of the surface, with swelling and effusion in and around the affected joint. The surfaces of the joint are incrustated with chalk-like masses, consisting of urates, which become greater with each attack, finally causing great deformity.

The deposit usually begins in the metatarso-phalangeal joint of the great toe, but other and many joints are soon affected.

The deposits may also be found in the knuckles, eyelids, and cartilages of the ear.

"Crystals of urate of soda are deposited in the tubules and intratubular tissues" of the kidneys—"gouty kidney"—and may be seen by the naked eye, the kidneys becoming small, granular and fibrous.

Hypertrophy of the left ventricle and of the arteries, ending in atheromatous changes, are results of gout.

SYMPTOMS. Acute gout is rare in the United States. It occurs in paroxysms; one year's interval between the first and second attack; six months usually between the second and third, after which it may occur at any time.

Prodromes usually precede the paroxysm for several days, to-wit: acid dyspepsia, constipation, headache, and lassitude.

The paroxysm begins suddenly, between midnight and 2 A. M., with acute pain in the ball of the great toe, which becomes red, hot, swollen, and so sensitive that the slightest touch can not be borne.

The veins are filled, the foot, ankle and leg swollen, and the limb the seat of sudden spasmodic contractions, which

increase the suffering; slight relief is afforded by elevating the limb. Associated with the local symptoms are chill, fever, quickened pulse, thirst, coated tongue, constipation, and scanty, acid, high-colored urine, which deposits, on cooling, a heavy brickdust sediment.

Towards daylight the symptoms ameliorate, to return again at sundown, the severity gradually lessening, until the fourth or fifth day, when convalescence is established, the patient, as a rule, feeling better than before the attack.

Chronic Gout.—Either the result of acute attacks or with a greater number of joints being attacked.

The paroxysms occur at any time, but develop slowly, with less pronounced local and general symptoms. Deposits are noticed, the joints becoming hard, knobby, and often distorted. The deposits or chalk-stones (urate of sodium) occur about the joints, tendons and bursæ, and helix of the ear.

DIAGNOSIS. An error can not occur if the history of the case can be obtained, to-wit: hereditary tendency, age, sex (females rare, until menopause), mode of living, character of symptoms, and presence of the characteristic deposits.

PROGNOSIS. Acute gout rarely fatal; is prone to return, but much depending upon the mode of living.

Chronic gout decidedly shortens life. The most serious signs are those indicating advanced renal disease, with non-elimination of uric acid. Gout influences unfavorably the prognosis from acute diseases or injuries.

THE TREATMENT.

Gout, like rheumatism, is due to lack of Negative or splanchnic nerve force—an excess of Positive nerve force, hence an acid condition of the blood. This acid condition is the result of stasis, hence the precipitation of acid crystals. The disturbance of certain molecules, such as sodium phosphate, sodium sulphate, chloride, and magnesium phosphates, that are generally deficient in the blood, hence positive force.

increased, negative decreased. General treatment is essential to cure a gouty diathesis, and the disease yields to proper, continued treatment.

Sometimes the elements have to be supplied, but when the circulation is properly established, are not needed. Give full general treatment three times a week.

DIABETES MELLITUS.

SYNONYMS. Glycosuria; melituria.

DEFINITION. A chronic affection characterized by the constant presence of grape sugar in the urine, an excessive urinary discharge, and the progressive loss of flesh and strength.

CAUSES. Most common in males. Occurs at all ages, but most frequently between twenty-five and fifty years. It is often hereditary. Disorders of the nervous, hepatic and renal systems. Excessive use of farinaceous food and malt liquors. Sexual excesses.

The exact pathology of diabetes mellitus differs in different cases, and in the present state of knowledge no exclusive view can be adopted. Still, there are reasons for believing that, in a large proportion of cases, the nervous system is primarily at fault, though the character of the lesions may differ.

PATHOLOGICAL ANATOMY. None peculiar to diabetes are yet recognized.

Hyperæmia and hypertrophy of the liver and kidneys are generally present, the result of increased functional activity.

The changes in the lungs peculiar to phthisis are often found in very chronic cases.

The changes in the nervous system are not fully determined.

SYMPTOMS. Clinically, cases differ greatly in their course and severity; one class presenting slight symptoms and a chronic course; another class having marked local and

constitutional symptoms and running an acute course. The symptoms of a typical case may be arranged under the following heads:—

Urinary Organs and Urine.—Micturition more frequent and the urine increased in quantity. Pain over the region of the kidneys.

The quantity of urine may amount to 4, 8, 12, 20 or 30 pints in twenty-four hours. It is usually pale, clear, and watery, having a sweetish taste and odor, the specific gravity ranging from 1.025 to 1.050. It ferments rapidly, if kept in a warm place. It yields grape sugar to the usual tests, the amount present varying from an ounce to two pounds in the twenty-four hours.

The urea and uric acid are increased. Albumen may be present.

The increased passage of a large quantity of saccharine urine causes a constant itching, burning and uneasy sensation at the prepuce, along the urethra, and at the neck of the bladder; in females, itching and eczema of the vulva are common; in children, incontinence of urine is frequent.

Digestive Organs.—An almost constant symptom is thirst, with a dry and parched condition of the mouth. At times the appetite is excessive, again absent. The breath may have a sweetish odor, the tongue irritable, red, and often cracked. Dyspepsia symptoms are common, and occasionally vomiting. The bowels are constipated, the stools pale and dry. At times diarrhea may occur.

The patient complains of feeling very weak, languid, and of soreness and pains in the limbs; there is more or less emaciation, a harsh, dry skin, the countenance distressed and worn.

The mind is often greatly altered; depression of spirits, decline in firmness of character and moral tone, with irritability, are present. Sexual inclination and power are demolished. Defects of vision are present.

The blood and various secretions contain sugar.

COMPLICATIONS. Pulmonary phthisis; Bright's disease; defects of vision from atrophy of the retina or the formation of a soft cataract; boils and carbuncles, and chronic skin affections, such as psoriasis and eczema.

COURSE. The clinical history varies in different cases. In the majority of instances the course is chronic, lasting for years, the symptoms beginning insidiously, and becoming progressively worse, with, at times, decided remissions. Occasionally the disease runs an acute course, death occurring within four or five weeks.

TERMINATION. The majority of cases ultimately prove fatal, the symptoms markedly changing, the urine and sugar diminishing in quantity, the occurrence of albuminuria, disgust for food and drink, and the development of hectic fever and colliquative diarrhea.

The fatal result usually arises from gradual exhaustion, from blood-poisoning, leading to stupor, ending in complete coma, or occasionally to delirium or convulsions, or from complications.

Rarely death occurs suddenly from uræmic convulsions or uræmic coma.

DIAGNOSIS. Diabetes mellitus only exists when grape sugar is permanently present in the urine. "It is not the quantity, but the persistence of sugar which constitutes diabetes." With grape sugar present in the urine, with more or less increase in the urinary flow, it can be mistaken for no other affection.

From Bright's disease, by the absence of dropsy, and of tube casts in the urine; the amount of albumen in the urine is never so great or constant in diabetes mellitus as in Bright's disease.

From diabetes insipidus, by the absence of sugar in the blood and urine, and the larger quantity of urine voided in polyuria.

Simple glycosuria differs from diabetic glycosuria in that the amount of sugar in the urine is not constant—at one

time being present, at another absent—the amount of urine voided is never in excess of health; simple glycosuria is a disease of the aged; diabetic glycosuria usually appears under fifty years. Simple glycosuria often results from the inhalation of chloroform, the use of chloral, in the insane, from excitement, or as one of the results of injuries to the head.

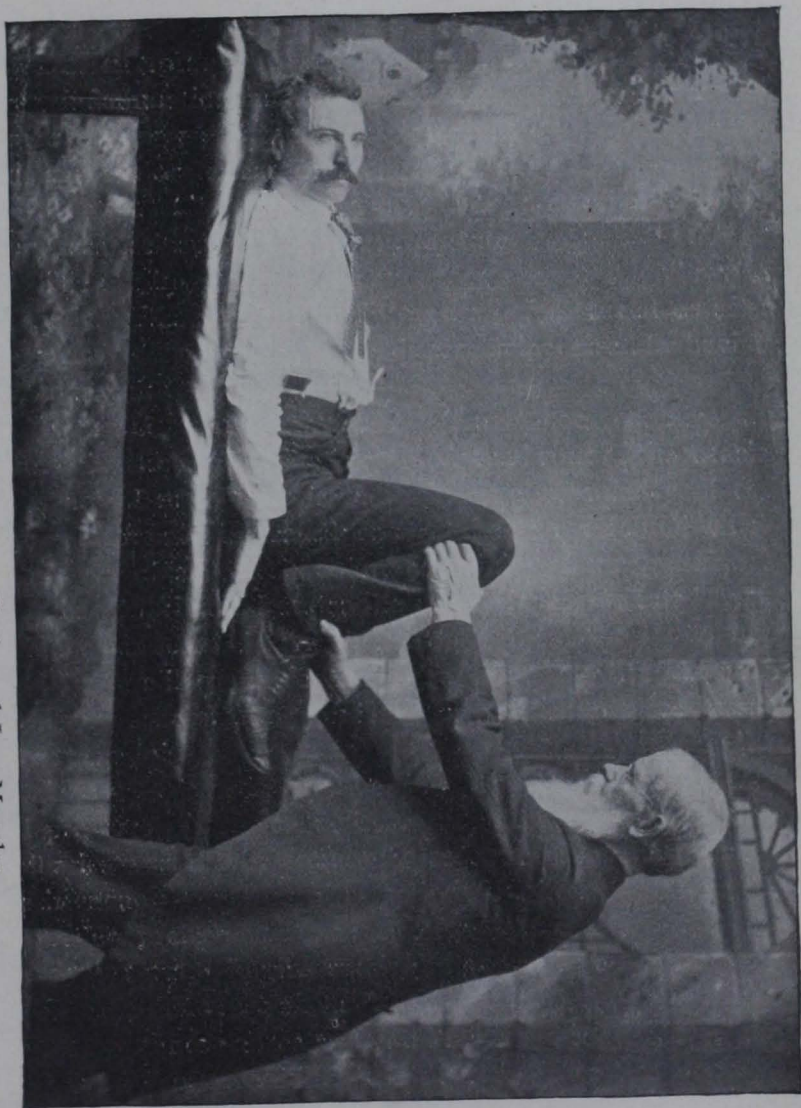
PROGNOSIS. Most unfavorable as regards a cure, it being fairly questionable if complete recovery has ever occurred in a typical case. Still, decided amelioration may take place in the symptoms, and the progress of the malady be greatly retarded. The younger the patient the more rapid the fatal termination.

THE TREATMENT.

Taking into consideration the fact that diabetes is a result of many pathological conditions, the treatment involves treatment for these before a change can be expected favorable to patient. Our motto is: "Take off the pressure," and this is eminently important in this case. The glandular system, the whole alimentary canal, the brain and spinal nervous system require to be looked after, hence a general treatment, all over, should be repeatedly administered every third day, giving special attention to the spinal region all the way down, even to end of sacrum. The movement of dorsal and lumbar muscles, upward and outward, beginning with the glutæi, working upward, and the pressure with fingers and thumb on sacral as well as lumbar area, with strong bending of lumbar region backward, from below upward, and persistent vibratory manipulations on lumbar area for several moments at each sitting, will be found to be beneficial, soothing and restorative. Due regard must be had to the general circulation, the digestive tract, the nerves involved, and especially those of the sympathetic controlling the secretions.

Any specific directions for treatment of these peculiarly complicated conditions would be misleading, and the Osteopath must remember that wherever incoordination is found correct it.

PLATE XXVI.—Treating Fibula and Leg Muscles.



DIABETES INSIPIDUS.

SYNONYMS. Polyuria; polydipsia.

DEFINITION. An affection characterized by the habitual discharge of a very large quantity of pale, watery urine, free from albumen and sugar.

CAUSES. Occasionally hereditary, or diabetes mellitus may have existed in the parent; more common in children or young adults; men are more liable than women; injuries and diseases of the nervous system; exposure to cold; drinking freely of cold water; fatigue; prolonged debility; malaria; syphilis.

The probable immediate cause of the excessive flow of urine consists in dilatation of the renal vessels, the result of paralysis of their muscular coat, caused by derangement of innervation, as the condition can be induced experimentally by irritating a spot in the fourth ventricle, or by section of portions of the sympathetic nerve.

SYMPTOMS. The affection is characterized by great thirst, with an increased flow of pale, watery, slightly acid urine, the amount varying from one to five or six gallons in the twenty-four hours. The specific gravity ranges from 1.001-1.007. Sugar and albumen are absent. Urea and the other solids are increased. The appetite is voracious, the bowels are obstinately constipated, and the skin is dry and harsh.

The large flow of urine is usually preceded by various nervous phenomena, as nervousness, irritability, inability to concentrate the mind, vivid imagination, a failure of memory, and headache.

Unless the affection is soon arrested great loss of flesh and strength results.

DIAGNOSIS. It differs from diabetes mellitus by the absence of grape sugar in the urine.

From paroxysmal diuresis, by the absence of the increased urine permanently.

From interstitial nephritis, by the greater amount of

urinary discharge and the absence of albumen, œdema, and casts.

PROGNOSIS. Rather unfavorable as to a radical cure, unless caused by syphilis. Death rarely is due to the diabetes, but to some intercurrent malady that the patient has been unable to withstand, on account of the weakness produced by the diabetes.

THE TREATMENT.

That this is strictly due to a nervous condition there can be no doubt, hence the indication is: Correct the nervous condition. To do this there should be special attention given to the spinal nervous system. Inasmuch as the sympathetic nervous system controls all action through the motor nervous system, the pressure must be removed from that system of nerves. This involves the whole organism—every capillary in the body—and can only be corrected by a general treatment, beginning at the vaso-motor area, and emphasizing special parts, especially along the dorsum; embracing renal splanchnic area, stimulating terminal nerve filaments along the spine, in our usual, general way, divulsing sphincter muscles, urethral canal, removing all obstructions and sources of irritation everywhere, and using considerable vibratory manipulation on spine, abdomen, liver, spleen, and pancreas.

Such emphasis should be placed on certain portions of the body as is demanded, and in the judgment of the operator seems most appropriate, and there should be persistence in this course until every source of irritation is removed. Healthy, pure, arterial blood must be directed to every capillary in the body, and complete restoration of nerve influence over the manufacture of glandular secretion, and the eliminating organs normalized.

LITHÆMIA.

SYNONYMS. Lithiasis; uric acid diathesis; half gout.

DEFINITION. A condition in which the fluids of the body are saturated with nitrogenized waste, in the form of lithic or uric acid; characterized by marked dyspepsia, various nervous phenomena, muscular and articular pains, bronchial catarrh, all or any of these associated with scanty, high-colored, acid urine.

CAUSES. High living, with little exercise; imperfect digestion of nitrogenized food; impaired elimination of uric acid.

PATHOLOGY. Not clearly determined. The non-elimination of certain products which have a deleterious influence upon the nervous system. That uric acid does exist in the blood is now generally accepted.

SYMPTOMS. Those of dyspepsia associated with irregular bowels, scanty, high-colored, acid urine, sp. gr. 1.024-1.028, containing neither sugar nor albumen, but showing an increased proportion of urates. Also depressed spirits, impaired memory, loss of interest in occupation, sleepless nights, attacks of vertigo, neuralgic pains in the head, and a constant dread of apoplexy or cerebral disease. Also pains in the joints, neuralgic in character. If the condition be allowed to continue, the following organic changes may result, to-wit: fatty heart; fibroid kidney; enlarged liver, or changes in the cerebral vessels.

DIAGNOSIS. From gout, by the absence of acute paroxysms and resulting changes in the joints.

PROGNOSIS. If properly recognized and treated, complete recovery will result, although it is a disorder of long duration.

If not properly treated, develops some one of the organic diseases mentioned.

THE TREATMENT.

Inasmuch as the fault seems to be in the organs of elim-

ination, the skin, lungs and kidneys should receive special attention at our hands. The eliminative power of these organs is dependent upon the healthful condition of the nerves that control them, and this healthful condition is dependent upon normal circulation. It follows as a sequence that to remedy the defects, there must be restoration of the circulation. To obtain this, the splanchnic nervous system, the negative pole, must be united to the positive, so the circulation may be complete. The generation of alkali is an essential element in this case, and the splanchnic nervous system controls that part of our physical economy; hence the spinal area demands special attention. Beginning at the vasomotor area, we give general treatment, carefully stretching the neck, together with the spinal column, then removing all the pressure from the contracted muscles in the neck, raising the clavicles, chest, treating the liver, spleen, bowels, kidneys, using vibratory manipulations over the lumbar area, bowels and liver, and treating the lower extremities. We then manipulate the joints in such a manner as to free the circulation, and take off the pressure generally.

CHOLERA.

SYNONYMS. Epidemic cholera; Asiatic cholera; malignant cholera; spasmodic cholera.

DEFINITION. An acute, specific, infectious disease, epidemic in the majority of, although endemic in other, localities; characterized by the transudation of serum into the stomach and intestinal canal, and violent purging of a peculiar, rice-water-like fluid, the persistent vomiting of a similar material, severe muscular cramps, and a condition of prostration, followed by collapse and death, or of a reaction from the collapse and the development of the typhoid state (cholera typhoid).

CAUSES. A specific poison, the "comma bacillus" of

Koch. Cholera is but feebly contagious, in the usual acceptation of that word, but it is unquestionably infectious.

The evidence seems conclusive that the cholera stools are the main, if not the only, channel of infection, and that the great cause of the propagation of cholera is the contamination, with the cholera stools, of the water used for drinking purposes. Milk may also be the vehicle by which it spreads. It is claimed that the bacillus is inert in the intestinal canal unless the individual is in the "receptive state"—that is, a condition of intestinal catarrh, such as results from eating unripe fruit, beer and spirit drinking, and indigestible food. It is also determined that the bacilli are destroyed by acids, and that if the stomach be normal, cholera will not result. "With pure water, pure air, pure soil, and pure habits, cholera need not be feared."—Hart.

Little, if any, danger exists from being in the presence of the affected, although the emanations from the cholera excreta in the atmosphere may generate the disease if swallowed or inhaled. The dead bodies of cholera subjects apparently possess slight infective property, "the bacteria of composition," probably destroying the cholera germs. One attack does not afford protection against another.

The period of incubation is short, under a week usually.

PATHOLOGICAL ANATOMY. This is, as yet, far from satisfactory. The morbid appearances in the majority of cases of death from cholera may be thus summarized. The temperature generally rises after death, the body remaining warm for a considerable time. Rigor mortis rapidly ensues, the muscular contractions being often so powerful as to displace and distort the limbs. The skin is mottled and the body greatly shrunken. The blood is darker in color, thick, viscid, feebly coagulable, and slightly acid. The arteries are quite empty of blood; the veins, on the other hand, are distended. The organs are, as a rule, pale and shrunken.

The stomach and intestinal mucous membranes are congested, and present evidence of extravasation and ecchy-

moses, or are bleached and pale. The stomach and intestines usually contain a quantity of whey-like material, having an alkaline reaction, as well as quantities of cast-off epithelium and the peculiar bacillus. It is thought by many that the stripping-off of the epithelium is a post-mortem phenomenon. The Peyer's solitary and Brunner's glands are usually enlarged and prominent, and occasionally evidences of ulceration are apparent in the solitary glands, and sections placed under the microscope show the "comma bacillus." The villi of the mucous membrane, as well as the epithelium of the small intestines, are stripped off, leaving the basement membrane, for the most part, exposed. The liver is more or less advanced in fatty degeneration, presenting a somewhat mottled, yellowish discoloration. The kidneys are congested, the epithelium of the tubules granular and detached from the basement membrane, blocking up the tubes. Prof. Bartholow observed in all of his autopsies, "considerable hyperæmia and dilatation of the vessels of the medulla oblongata. The constancy of this lesion would seem to indicate a relationship between congestion of the medulla and the cramps."

SYMPTOMS. In accordance with the law of epidemic infectious diseases, the onset, course, and character of the symptoms vary in different cases and at different periods in the same epidemic.

The disease may either set in suddenly in a patient previously in good health, or it may follow an attack of rather severe and persistent typhoid symptoms, develop the so-called cholera typhoid, which prolongs the recovery for several weeks. Convalescence is often prolonged and complicated by the development of severe bed-sores, boils, bronchitis, pneumonia or parotitis.

SEQUELÆ. Suppuration of the parotid gland; painful tetanic contraction of the flexor muscles of the limbs; abscesses or ulcers of the limbs; profuse sweats; roseola, erythema, urticaria, and rarely vesicular eruptions.

DIAGNOSIS. The epidemic character, and rapid spread-

ing, and great mortality of the affection prevent its being mistaken for any other disease, although isolated cases are often confounded with cholera or with cholera morbus, the points of distinction being few, unless the "comma bacillus" only be found in the stools of true cholera.

PROGNOSIS. Very unfavorable, the mortality ranging from twenty to eighty per cent. The last epidemic in this country was much milder than former ones. The prognosis is controlled by the general condition of the patient, the age, habits, and the development of the algid state; the prognosis being more favorable in those cases which develop gradually than in those in which it reaches its acme at a single bound; the very young or very old, those addicted to the various excesses and surrounded by unfavorable hygienic conditions, are more apt to perish than are others.

THE TREATMENT.

This dreaded disease has slain millions, and yet no specific has been discovered that says: "Thus far shalt thou go, and no farther." Cholera is another of that group of affections resulting from disturbance in the Positive and Negative forces of the nervous systems, reversing the order of nature, neutralizing chemical affinities, and letting loose the "dogs of war" in the physical economy, drowning the tissues and dissolving the elements, relaxing the walls of every tube in the body, and permitting the fluids to escape, until complete exhaustion ensues; nervous influences are aborted; collapse closes the avenues, paralysis locks the door, the key becomes ineffectual, and death closes the physical career of the unfortunate. Cholera is like diarrhea, only an exaggeration of the same condition, and whether the "cholera bacilli" are the cause, or only a foreign substance, the treatment is the same. To unite the forces is the essential thing to do. Negative influences predominate, relaxation to paralysis of nerve filaments results; the watery portions of the blood exude in an inverse manner to a normal condition; watery diarrhea is

the result. All this is due to lack of communication and contact of terminal filaments of the motor and sympathetic nerve footlets. The communication is cut off and the splanchnics become paralyzed. We unite these forces, and restoration begins at once. Starting at the sacro-lumbar junction, we treat the spine upward; or, bending the patient by force backward, we press with the knee directly on and over the twelfth dorsal region, strongly for one to three minutes, and then use gentle pressure on and against the abdomen for a few moments; this unites the two forces, and restoration begins at once. The most marvelous change takes place in the whole system from this movement and pressure here. The stream is turned the other way—peristalsis is lessened at once, and immediate relief ensues. With children, the same results are accomplished by taking hold of the feet, placing the patient on the face, putting pressure on either side of the spine at the lower lumbar area, pressing strongly as the body is bent firmly backward by the raising of the limbs, and at the same time pressing with the fingers, fist or knee, in the lumbar region—doing so by beginning low down and treating upward each move as shown in that move elsewhere. Mesenteric nerve-stretching has much to do with results. The quieting influence of confidence enhances a wholesome outcome mentally in patient. “Fear hath torment” in this disease, perhaps more than in any other, and as the inspiration of confidence comes, cessation of the discharges sets in. Treatment is to be repeated every two to four hours, or as often as indicated, and quietude every way enjoined. Restoration of splanchnic and pneumogastric forces regulates the whole difficulty.

TRICHINOSIS.

SYNONYMS. *Trichinæ*; *Trichina spiralis*; “flesh-worm disease.”

DEFINITION. A typhoid condition, the result of the entrance of a parasite—the *Trichinæ spiralis*—into the intes-

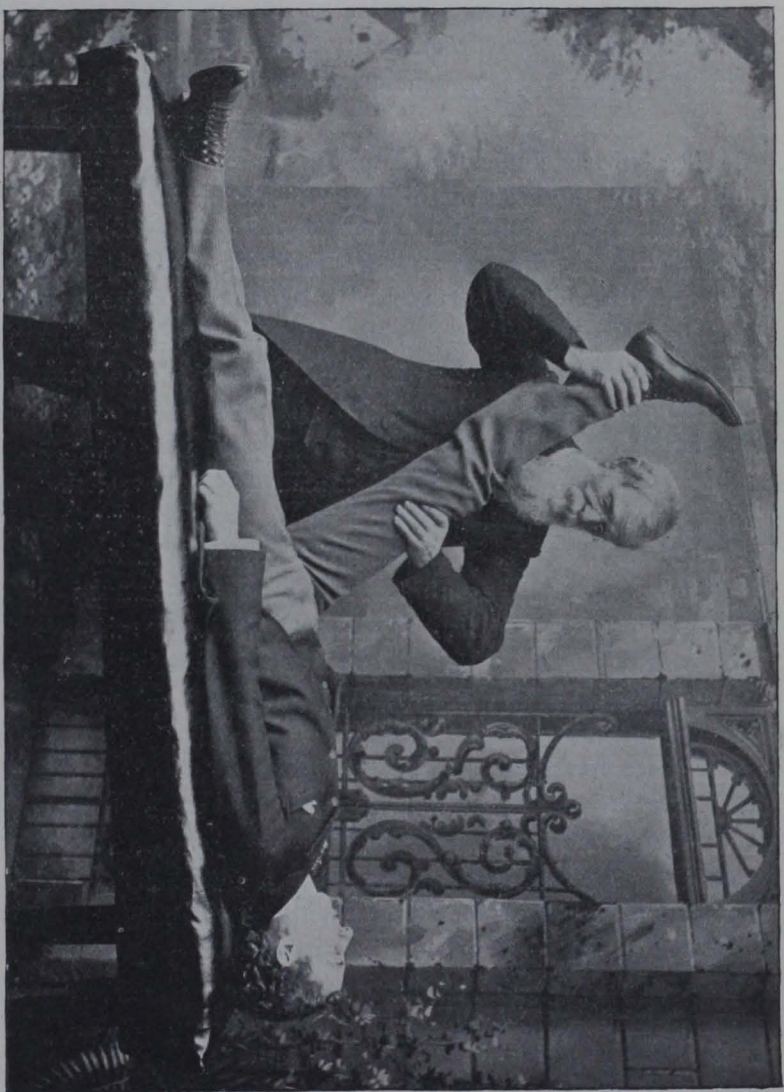


PLATE XXVII.—Stretching Muscles of Back of Leg.

tinal canal, and their subsequent migration into the muscular structure; characterized by severe gastro-intestinal irritation, severe muscular soreness, and a low typhoid condition.

CAUSES. The *Trichinæ spiralis* are introduced into the human body by eating the infected hog's flesh, either raw or but imperfectly cooked.

DESCRIPTION. The parasite is found in two forms, to-wit: intestinal trichina, which is sexually mature, and muscle trichina, which is sexually immature. The intestinal trichina is a small, hair-like worm, the male measuring 1-18 of an inch, and the female 1-8 of an inch in length; the head is smaller than the rest of the body; the tail of the male has a bi-lobed prominence, between the divisions of which the anal opening is placed, and from which a single spiculum can be protruded; the female has a blunt, rounded tail, the reproductive outlet being situated toward the anterior part of the body; the ova are very small, containing embryos being produced viviparously at the rate of at least one hundred each week after the entrance of the female into the intestinal canal. The muscle trichina develops its sexual apparatus after it has entered the intestinal canal of the host.

The viable embryos discharged from the female are in a state of motion, and at once migrate from the intestines to the muscular structure of the individual, and here set up inflammatory action, they becoming surrounded by a capsule or shell in which they are coiled. After a time, in the muscle, the trichina undergoes a further change; lime salts being deposited in and about the capsule and in the parasite itself, when minute specks of lime are seen distributed throughout the muscular structure. The development of the parasite from the period of impregnation up to the time of sexual maturity is, under favorable conditions, less than three weeks. Within two days from the ingestion of the infected pork occurs the maturation of the muscle larvæ; in six days more the birth of embryos occur, and in about two

weeks the migrating progeny have arrived at their habitat, the muscular structure.

SYMPTOMS. These depend upon the number of parasites in the infected food. According to Dr. Sutton, of Indiana, a piece of pork the size of a cubic inch contained eighty thousand trichinæ. There are three stages described, to-wit: the intestinal, the migration, and the encapsulation.

Intestinal Stage.—A gastro-intestinal inflammation, with nausea, vomiting, and watery diarrhea, the severity depending upon the number of the parasites ingested.

Migration Stage.—A typhoid-like fever, rapid, feeble pulse, profuse sweats, intense thirst, dry tongue and lips, and red, swollen face, with soreness and tenderness of the muscular structure, increased by any muscular act. As a rule the mind is clear, but decidedly apathetic.

Encapsulation Stage.—If the number of parasites ingested has been few, recovery may occur in this stage, but if the number has been large, the gastro-enteritis, fever, and muscular phenomena are severe, the patient is in a critical condition, between twenty and fifty per cent. succumbing.

DIAGNOSIS. Unless the physician has some intimation of the cause, cases are readily mistaken for either ordinary ileo-colitis or typhoid fever.

PROGNOSIS. Depends upon the number of trichinæ in the pork eaten. Mortality between twenty and fifty per cent.

THE TREATMENT.

Osler says there is no drug that influences a favorable result in the migratory stage of this "bug." The treatment should be directed especially to the digestive system, and especially to the liver. Turn in a whole lot of bile on the "colony," and do all that is possible to move him out, and relieve the capillary congestion, so as to keep up a normal supply of arterial blood everywhere.

If pork-eaters would have the meat boiled for four hours at a temperature of over 240 degrees, trichinæ would never be found in the human system.

DISEASES OF THE BLOOD.

ANÆMIA.

SYNONYMS. Spanaemia; hyperaemia.

DEFINITION. A deficiency of red corpuscles in the blood, or of its more important constituents, such as albumen and haemoglobin, or a reduction in the amount of blood as a whole; characterized by pallor and general weakness.

Oligaemia is a general lessened amount of the blood. Ischaemia is a localized anaemia.

CAUSES. Predisposing.—Sex; females, pregnancy and menopause; heredity. Exciting.—Deficient food, air, or sunshine; excessive work; mental worry; mental shock; prolonged and frequent nocturnal emissions; excessive nursing; chronic intestinal catarrh; Bright's disease; syphilis; cancer.

PATHOLOGICAL ANATOMY. Post-mortem, the tissues are thin, shrunken, and bloodless. If the anaemia has been of long duration, patches of fatty change are seen in the various organs. The blood has a brighter color, the result of diminution in the number of red corpuscles and the quantity of the haemoglobin; it is thinner than normal, and coagulates slowly and imperfectly, from diminution of the fibrino-plastic constituent. In health the blood of an adult contains about five million red corpuscles to the cubic millimeter (the female adult about half a million less). The white cells, in health, average about ten thousand to the cubic millimeter.

SYMPTOMS. Pallor, gums, tongue, ear, and conjunctivae pale. Muscular weakness, inability for exertion. Deficient appetite and impaired digestion, attacks of vomiting the result of anaemia of the medulla oblongata. Quickened respiration, irritable temper, vertigo in the erect position, attacks of swooning, hysteria, and rarely epilepsy. Irritable heart, with soft systolic basic murmurs. Nocturnal emissions in male and deficient menses in female. Marasmus in children. More or less general oedema of the eyelids and ankles. Long continued, symptoms of fatty changes in various organs or gastric ulcer result.

DIAGNOSIS. The symptoms of anaemia are so characteristic

that an error is impossible; the cause of it, however, may be hidden.

PROGNOSIS. Favorable if treated early. If protracted, results in more or less general symptoms of fatty degenerations or ulcer of the stomach.

THE TREATMENT.

This condition being due to malassimilation of food, either due to lack of one or more elementary constituents, that should be attended to the first thing. Air and sunshine should be especially regarded. Deep inhalations should be practiced several times at a sitting, and repeated every two to four hours during the day. Strict regard given to hygienic measures and daily stimulation of the vaso-motor centers, so as to regulate the circulation of the blood left in the system.

The neck muscles should be thoroughly manipulated and kneaded, all the pressure taken off, stretched as directed, by placing one hand under the chin, the other at the occiput, pull gently until the feet are seen to move, then turn face one-eighth of the angle, then back to straight line with the body; then let go, change hands and go through the same move. General and thorough, mild, all-over treatment should be made every other day. Friction along the spine, the vibratory movements on the abdomen, over the liver, spleen and kidneys. Examine the outlets of the body. Remove all undue contraction of sphincter muscles. See that the normal functions of all of the organs of the body are performed. Take off all undue pressure everywhere, and your patient will begin to brighten up, the vital fluids will take on a normal hue, and vivacity take the place of the pallor so characteristic. This is rational.

PROGRESSIVE PERNICIOUS ANÆMIA.

SYNONYMS. Idiopathic anaemia; anaematoses; essential anaemia; anaemia of fatty heart.

DEFINITION. A pernicious, progressive form of anaemia, of unknown cause, usually resisting all treatment, and toward its termination associated with fever.

CAUSES. The underlying cause of idiopathic anaemia is not known. Among the exciting causes may be mentioned, pregnancy, syphilis, and great worry.

PATHOLOGICAL ANATOMY. The blood is scanty and pale,

with diminished red corpuscles, and haemoglobin, showing a very feeble tendency to coagulate. There is no increase in the white corpuscles. The marrow in adult bones becomes foetal, red, and adenoid, and contains microcytes; several other changes have occurred secondarily in the marrow. Secondary to the anaemia, the heart, larger arteries, and certain capillary tracts exhibit circumscribed or diffused fatty degeneration. The liver, spleen, kidneys and stomach are decidedly anaemic, causing fatty changes in those organs. The skin may contain petechiae of a purplish or brownish tint, and internal hemorrhages are not infrequent; retinal hemorrhage is rarely wanting.

There is not much emaciation, though the pallor is pronounced.

SYMPTOMS. It begins insidiously with increasing languor and pallor, the muscular weakness compelling the patient to take his bed. Cardiac palpitation, dyspnoea, attacks of syncope, oedema, and swelling about the ankles, with petechial spots scattered irregularly over the surface; tenderness over the sternum and other superficial bones is a frequent symptom. The appetite is wanting, and nausea and vomiting occur, associated with marked dyspepsia and persistent diarrhea. As the disease progresses a remittent form of fever develops, the temperature frequently showing 102 degrees to 104 degrees F

Disorders of vision are the result of the retinal hemorrhage. The cardiac sounds are feeble and associated with soft basic or anaemic murmurs. The blood shows under the microscope the changes described in chlorosis, save the red corpuscles may be reduced to as few as 50,000 to the cubic millimeter.

DIAGNOSIS. Progressive pernicious anaemia is distinguished from simple anaemia and chlorosis by the greater severity of the former. From leucocythemia by the normal-sized spleen and liver, and the absence of increase in the white corpuscles.

PROGNOSIS. Unfavorable as a rule, although recoveries occur, but relapses frequent.

TREATMENT. The same as for Anaemia.

LEUCOCYTHEMIA.

SYNONYMS. Leukaemia; white cell blood; white blood; anaemia splenica.

DEFINITION. A condition in which there is an enormous increase in the number of white blood corpuscles, with enlarge-

ment of the lymphatic glands, spleen, and often of the bone marrow, viz.: splenic, lymphatic, or myelogenic, and is characterized by symptoms of pronounced anaemia.

CAUSES. The real cause and nature of the affection is unknown.

PATHOLOGICAL ANATOMY. The spleen is increased in size, density, and firmness; the lymphatic glands all over the body also enlarge, but are soft to the touch, often fluctuating; the marrow of the bones changes from its normal rose color to that of a greenish yellow; the liver also enlarges enormously. The blood is paler than normal, its specific gravity reduced from 1.055 to 1.040 or lower, and the white corpuscles increased in number and in size, the red corpuscles being lessened in number and size.

SYMPTOMS. The onset is insidious and the early progress of the disease is identical with that of simple anaemia, accompanied by swelling of the abdomen and a feeling of fullness and pain in the splenic region, due to the enlargement of that organ. In the lymphatic variety, enlargement of the glands in the groin, neck, and axillary region are associated with the great pallor. In the myelogenic variety, the bones, more particularly the ribs and sternum, are tender on pressure, the patient developing a waxy appearance. In each variety the appetite is poor, the digestion feeble, the bowels loose, the patient easily fatigued, with cardiac palpitation, and dyspnoea, with oedema of the eyelids and ankles. The urine is scanty and of high specific gravity—1.020-1.030. Fatal hemorrhages occur near the termination of the disease.

The blood is pale and watery. The white blood corpuscles are enormously increased in number. The average number of white corpuscles to the cubic millimeter normally is about 10,000. Cases are recorded in which the number of white corpuscles has equaled or even exceeded the red blood corpuscles. The size of the white corpuscles varies in different cases and also in the same case. The red blood corpuscles are frequently decreased in number and size.

DIAGNOSIS. This should cause but little trouble if enlarged spleen, lymphatic glands, and tender bones are associated with great pallor, and the characteristic appearance of the blood as demonstrated by a "puncture of the finger of the patient and receiving the blood on a piece of white linen or a lawn handkerchief, and placing by the side of it a similar stain of blood from a healthy subject. The full color of the latter contrasts strikingly with the stain of the former, which is hardly of a blood color and translucent."

PROGNOSIS. Unfavorable. The average duration is between two and three years. Cases of what are termed "acute leukaemia," proving fatal in a few months, occur.

THE TREATMENT.

The principal reason that renders this condition fatal is the failure on the part of the physician to comprehend the situation—the deficiency of certain elements. The malassimilation of the food eaten, due in nearly all cases to interference in the circulation of the blood in the glands, causes a deficiency of normal elements. These must be supplied before recovery can take place. The circulation of deficient fluids will not right the deficiency. The elements must be there or the power is deficient in the manufacture of them. In all cases the phosphate of lime is lacking to mature the cells, then the phosphate of iron is lacking, hence no affinity in the blood for oxygen. There is deficiency of potassium phosphate, hence nervous influence is lacking; and most generally we find sodium chloride deficient, hence the blood is thin and watery, and as the motor nervous system is involved (spinal), we lack sodium phosphate and sodium sulphate, and in young girls, where the menses are watery, silica is needed. With these elements supplied, either in the form of food or the potencies assimilable, and general treatment to arouse the glandular system to action, stimulate normal circulation and nerve force, this condition may be remedied as well as other affections. Study all the conditions existing in cases of this sort, and do not become an automaton. Meet the indications with a due amount of brains, and you will succeed. General treatment every other day.

HODGKIN'S DISEASE.

SYNONYMS. Pseudo - leukaemia; pseudo - leucocythaemia; lymphatic anaemia; lymphadenoma.

DEFINITION. An affection characterized by hypertrophy of the lymphatic glands in various parts of the body, associated with marked anaemia.

CAUSE. Venous stasis.

PATHOLOGICAL ANATOMY. A hyperplasia of the lymph glands interfering more or less with their functions. The enlargement may be confined to one isolated gland, or a number may be affected in different portions of the body, or a number in one location may be simultaneously affected, causing a tumor varying in size from an egg to an orange or even a cocoanut. The spleen

and liver are involved in two-thirds of the cases. "The marrow of the long bones may be converted into a rich lymphoid tissue."—Osler. The red blood corpuscles are decreased in number and altered in size and shape; the white blood corpuscles are often increased in number.

SYMPTOMS. A slowly developing anaemia with isolated or diffused enlargement of the lymphatic glands. As the condition develops, fever of a remittent character occurs, with feeble cardiac action and shortness of breath. Hemorrhages may occur. The patient grows progressively worse, with all the associated symptoms of deficient blood, death occurring by asthenia.

DIAGNOSIS. A study of the clinical history will prevent error, as tubercular or scrofulous glands are accompanied with tubercular changes in the lungs, and do not present the same blood changes as Hodgkin's disease.

PROGNOSIS. Unfavorable. The progress may be slow, but it is none the less toward a fatal termination.

THE TREATMENT.

As the lymphatic circulation is dependent on venous circulation, the primary indication for relief is in the removal of obstructions to the venous return blood. Capillary stasis causes pressure on the terminal nerve filaments, causing inactivity, or entire loss of power in the nerves to carry on normal or any function. The pressure must be removed before health can be restored. The treatment should be general for this condition, and freedom of the circulation of the fluids of the entire body should be regarded as essential. No pathological condition can last long under our treatment for general circulation of the fluids. Take off the pressure everywhere. Health results. Beginning at the neck, treat every organ in the body. Plenty of air and sunshine, and rest of digestive organs, should not be lost sight of. Lively company, exercise, systematic bathing, friction of skin and wholesome, nutritious diet, with plenty of water to drink, six to eight pints in twenty-four hours. Recommend the non-use of breakfast, to rest the digestive organs, and no piece-between-meals allowed.

ADDISON'S DISEASE.

SYNONYM. Melasma supra-renal.

DEFINITION. "The bronzed-skin disease." Thus defined by Averbek: "A well-marked constitutional disease, exhibiting

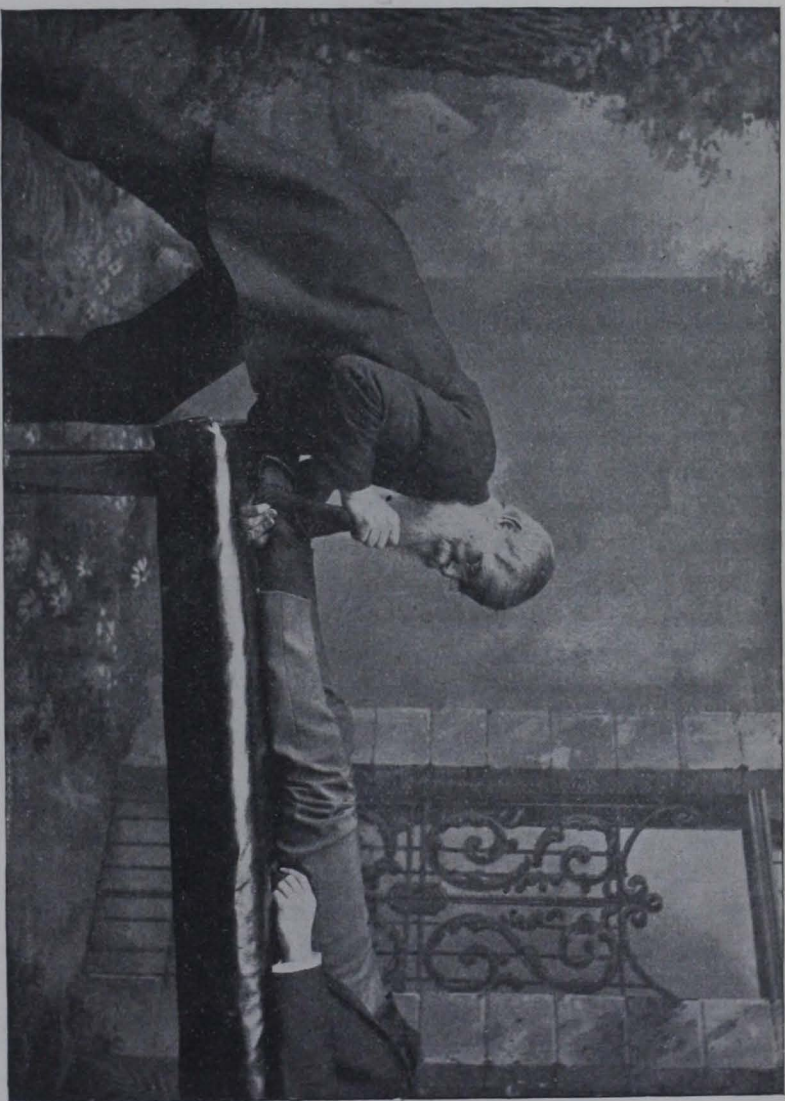


PLATE XXVIII.—Stretching Tendo Achilles.

itself locally as a chronic inflammation of the supra-renal capsules, but in its essence consisting in a peculiar anaemic condition, always tending toward death, which is characterized by intense development of pigment in the cells of the rete malpighii and in the epithelium of the mucous membrane of the mouth."

CAUSES. Obscure. Tubercle, scrofula, and syphilis have each been given as the cause.

PATHOLOGICAL ANATOMY. A low form of inflammation, terminating in degeneration of the supra-renal capsule. The blood is deficient in fibrin and red corpuscles, with a slight increase of the white corpuscles. Fatty degeneration of the heart and vessels has been observed in some cases. "The most striking change during life—the abnormal pigmentation—is due to the deposition of granular pigment in the cells of the rete malpighii, in the papillary portion of the cutis, and even in the connective tissue corpuscles. No change occurs in the proper structure of the skin. Similar pigment deposits occur in the mucous membrane of the mouth, especially along the edges of the teeth." "The disease of the supra-renal capsules excites an irritation of the vaso-motor system—the trophic system—which leads to the pigmentation."

SYMPTOMS. The onset of the disease is insidious, with a feeling of extreme languor, muscular fatigue, asthenia, indigestion, anorexia, dyspnoea, cardiac palpitation, vertigo, melancholia, and excessive drowsiness. The surface is first pale, then changes to a hue like that of melanaemia, changing to icteroid, finally resembling the color of a mulatto, and then to a lusterless bronze. These changes also occur on the mucous membrane of the lips, tongue, gums, and mouth.

PROGNOSIS. An incurable disease. Duration, a year or two.

TREATMENT. Same as for Leucocythemia. Deficiency of elements supplied.

HÆMOPHILIA.

SYNONYMS. Hemorrhagic diathesis; "bleeder's disease."

DEFINITION. A congenital condition, characterized by a tendency to uncontrollable hemorrhages, with or without abrasions.

CAUSE. Hereditary.

SYMPTOMS. The bleeding appears about the period of first dentition, and consists of spontaneous hemorrhages from the mucous membrane of the nose, mouth, lungs, stomach, intestines,

and genito-urinary passages, or in perfect cases hemorrhages occur directly from the fingers, toes, lobes of the ears, back of the hands or arms, without any apparent change in the skin, and continue in spite of the most powerful means, for days and weeks. Traumatic hemorrhages occur if an injury of any kind is sustained about the period of the development of the bleeding. Epistaxis is the most common form of all those named. Attacks of arthritis with fever occur with haemophilia, resembling acute rheumatism. As a result of the great loss of blood, the subject suffers from all the symptoms of profound anaemia.

DIAGNOSIS. It is impossible to confound the "bleeder's disease" with any other affection.

PROGNOSIS. Death is the usual termination within a few weeks from the time of its development, which may not be until adult life.

THE TREATMENT.

See to it that all venous congestion is removed, venous closures opened and kept open, and supply the deficiency in the blood itself—that is, phosphate of iron. The sixth potency is the strength to use—for weeks, three or four grains at a dose three or four times a day.

SCORBUTUS.

SYNONYM. Scurvy.

DEFINITION. A peculiar condition of malnutrition or anaemia, gradually developing upon a dietary deficient in fresh vegetable material; characterized by decided anaemia, debility, mental lethargy, petechiae, and a swollen and spongy state of the gums, with a tendency to bleed upon the slightest irritation.

CAUSES. The disease only occurs when fresh vegetable nutriment or some appropriate substitute has been for a time partially or completely withheld. It is held that the diet alone is not sufficient to cause the disease; the mental factor of depression of spirits, or in some cases home-sickness (nostalgia), must be associated. It is sometimes classed as an infectious disease, due to a peculiar germ, a view which is gaining ground.

PATHOLOGICAL ANATOMY. An undetermined derangement in the composition of the blood, with diminished proportion of the potash salts. Spleen enlarged. The tissues are wasted and present extravasations, due to either one of or the combined

presence of the following conditions, to-wit: liquid condition of the blood, allowing it to escape from the vessels, alterations in the walls of the vessels, or a vaso-motor paralysis.

SYMPTOMS. General weakness, lassitude, indisposition to either mental or physical exertion. The skin is dry, rough, and of a muddy pallor, the face pale and bloated. Swelling and sponginess of the gums, with great tendency to bleed and an exceedingly offensive breath. Looseness of the teeth, hemorrhages from mucous surfaces, and extravasations of blood within and beneath the skin. The lips are pale, which is in striking contrast to the redness of the gums; the eyes are sunken and surrounded by dark blue circles. Hemorrhages occur from the stomach, mouth, bronchial tubes, intestinal canal, and vagina. The skin is dry and rough, resembling that of a plucked fowl. Œdema of the face and ankles not infrequent. Depression of the spirits is characteristic. Palpitation and dyspnoea on exertion. Urine high-colored, speedily becoming foetid. The patient usually longs for fresh vegetables and fruits.

COMPLICATIONS. Dysentery. Scorbutic dysentery is a frequent complication. It may co-exist with typhoid and typhus fever.

PROGNOSIS. Favorable, if early and properly treated.

THE TREATMENT.

The cause seems to be due to an excess of chloride of sodium in the system—an undue action of the Negative forces—hence the pneumogastric nervous system is at fault. Not enough acid is generated in the secretions of the stomach. The remedy is to treat the neck, with special regard to the pneumogastric nerve along the sides of the anterior aspect of the neck (in the carotid sheath). Raise the clavicles, arms, chest, and attend to the venous circulation especially everywhere. The vaso-motor centers should receive attention. Abstinence from salty bacon, and a vegetable diet, with free and deep inspirations, full expansion of the lungs, so as to oxygenate the blood, neutralize the alkalinity of the blood thereby, equalize the forces, take off the pressure from all sphincters, and flush the capillaries daily. Drink water freely. Use no stimulants, not even beer or tobacco. Daily baths; exercise in open air; sleep in thoroughly aired apartments. Get back to the primitive order of living if possible. Learn “war no more.”

PURPURA.

SYNONYMS. Haemorrhoea petechialis; morbus maculosus Werlhofii.

DEFINITION. An acute disease, characterized by purplish discolorations of the skin, the result of hemorrhages into the upper layers of the cutis and beneath the epidermis. When the purpuric spots are tiny, like a pin-point, they are termed petechiae; when larger in size they are termed ecchymoses.

VARIETIES. Purpura simplex; purpura haemorrhagica; purpura urticans; peliosis rheumatica.

CAUSES. Not properly understood, a special germ supposed to be the cause. It may occur at any age, but is especially frequent in children and elderly people. Its occurrence after the ingestion of certain articles of diet has been observed.

SYMPTOMS. Purpura simplex is the mildest form of the affection, and is characterized by the sudden appearance of small, bright red spots—a cutaneous hemorrhage—most commonly on the legs, associated with slight lassitude, mild febrile reaction, and aching pains in the limbs. The hue of the spots rapidly fades to a purplish color and slowly disappears. Relapses are common.

Purpura haemorrhagica has in addition to the eruption of purpura simplex—the cutaneous hemorrhage—a flow of blood from the free surface of mucous membranes. The most common hemorrhage is epistaxis, slight or profuse. Other hemorrhages are haematemesis, melaena, haematuria, haemoptysis, menorrhagia, and also into the substance of the mucous membranes of the palate, cheek, and gums. This variety is associated with great debility and depression, moderate fever, and disorders of digestion. Marked anaemia results from the hemorrhages.

Purpura urticans is a combination of urticaria and purpura simplex. It is characterized by rounded and reddish elevations of the cuticle, resembling wheals, but which are not accompanied, like the wheals of urticaria, by any sensation of itching or tingling. They are usually seated on the legs, thighs, breast, and arms, and are interspersed with petechiae. They gradually form and subside within twenty-four or thirty-six hours. Relapses are frequent. This variety is also associated with malaise, moderate fever, and pains in the limbs.

Peliosis rheumatica (Schoenlein's disease) is characterized by multiple arthritis and a purpuric eruption; frequently the arthritic symptoms are associated with urticaria or with erythema exudativum. Oedema is often marked, as in the fever, sore throat, and

general constitutional symptoms. The eruption is sometimes of vesicles—pemphigoid purpura.

DIAGNOSIS. The purpuric eruption in each variety of the affection is so characteristic that an error seems impossible.

PROGNOSIS. Purpura simplex and purpura urticans are favorable, but relapses are frequent. Purpura haemorrhagica is always a grave disease, often proving fatal from exhaustion, or more rarely, from cerebral or pulmonary hemorrhage. Peliosis rheumatica is often a severe affection, but recovery is the rule.

THE TREATMENT.

There is nothing else indicated in this affection so prominently as freedom of the circulation of the blood, and as the nervous system that controls the circulation is interfered with the means we have to relieve this condition are in our own hands, largely at least. Stimulate the vaso-motor system the first thing; free muscles of cervix; raise the clavicles, arms, chest; overcome the sphincters and restore capillary and venous circulation, and keep the pressure off, and the blood will flow through normal channels, and no hemorrhage will ensue. Remember that "to take off the pressure" cures all curable affections. Exercise the same sense here as is required in all other pathological conditions, and the same satisfactory results will obtain.

DISEASES OF THE RESPIRATORY SYSTEM.

PHYSICAL DIAGNOSIS.

PHYSICAL DIAGNOSIS is the art of discriminating disease by means of the eye, the ear, and the touch. The signs thus ascertained are connected with changes or alterations in the form, density, or condition of the structures within, and are known as physical signs. "Physical signs are, then, the exponents of physical conditions, and of nothing more."—Da Costa.

The method employed in the physical exploration of the chest are: 1. Inspection; 2. Palpation; 3. Mensuration; 4. Percussion; 5. Auscultation; 6. Succussion.

Percussion and auscultation, dealing with sounds, are of the greatest value, clinically. For the purpose of physical exploration, the chest is mapped off into regions or divisions, as follows:

Anteriorly.—1. Supra-clavicular.—Lying above the upper edge of the clavicle, usually about an inch in extent. 2. Clavicular.—Corresponding to the inner two-thirds of the clavicle. 3. Infra-clavicular.—From the clavicle to the lower border of the third rib. 4. Mammary.—Between the third and sixth ribs. 5. Infra-mammary.—Downward from the sixth rib.

Laterally.—1. Axillary.—That portion above the sixth rib. 2. Infra-axillary.—That portion below the sixth rib.

Posteriorly.—1. Supra-clavicular.—That portion above the scapula. 2. Scapular.—That portion covered by the scapula. 3. Inter-scapular.—That portion between the scapulae. 4. Infra-scapular.—That portion below the angle of the scapula.

INSPECTION.

INSPECTION signifies "the act of looking." Views of the chest should be taken from the sides and behind as well as from the front; for which purpose a good light should be obtained, and the patient be placed in as easy and comfortable a position as is possible. Inspection reveals the form, size, color, and movements of the chest, as well as the condition of the superficial parts.

In health the sides of the chest are for the most part symmetrical in form, size, color, and movements, both sides rising equally during the act of inspiration, and falling equally during the act of expiration. During the act of inspiration the intercostal spaces in the lower two-thirds of the chest become more hollow, as also do the supra-clavicular fossae. Inspiration is almost entirely the result of muscular action; expiration, on the other hand, is chiefly due to the elasticity of the lungs and chest walls, aided somewhat in forced respiration by muscular action. The movement of inspiration by inspection is of longer duration than that of expiration, and the pause between the acts but momentary. The respiratory movement is visible over the whole thorax, although in males and in children it is most distinct at the lower portion (inferior costal breathing), while in the female it is most distinct at the upper portion of the chest (superior costal breathing).

PALPATION.

By PALPATION is meant the application of the palmar surfaces of the hands and fingers to the chest, by which means we appreciate impressions which are capable of being conveyed by the sense of touch. The objects of palpation are: 1. To give more accurate information regarding what is revealed by inspection. 2. To locate spots of soreness, the density and condition of tumors, if any be present, the state of the chest walls, the frequency of the breathing, and the action of the heart. 3. To determine the existence and character of the various kinds of fremitus (vibrations).

By FREMITUS is understood certain tactile impressions or vibrations conveyed to the surface of the chest, which are classed and produced as follows: 1. Vocal Fremitus.—Produced by the act of speaking or crying. 2. Tussive Fremitus.—Produced by the act of coughing; of value especially when the voice is very weak. 3. Bronchial Fremitus.—Produced by the passage of air through mucus, blood, or pus, in the bronchial tubes, during the act of respiration. 4. Friction Fremitus.—Produced by the rubbing together of the roughened surfaces of the pleura.

When the normal chest vibrates lightly, it is termed the normal vocal fremitus. The vocal fremitus is more distinct upon the right side toward the apex. If the lung be consolidated (denser), the vibration is greater and more easily distinguished—the vocal fremitus is increased. In feeble persons, or when any cause

interferes with the transmission of the vibrations, the vocal fremitus is diminished or absent.

MENSURATION.

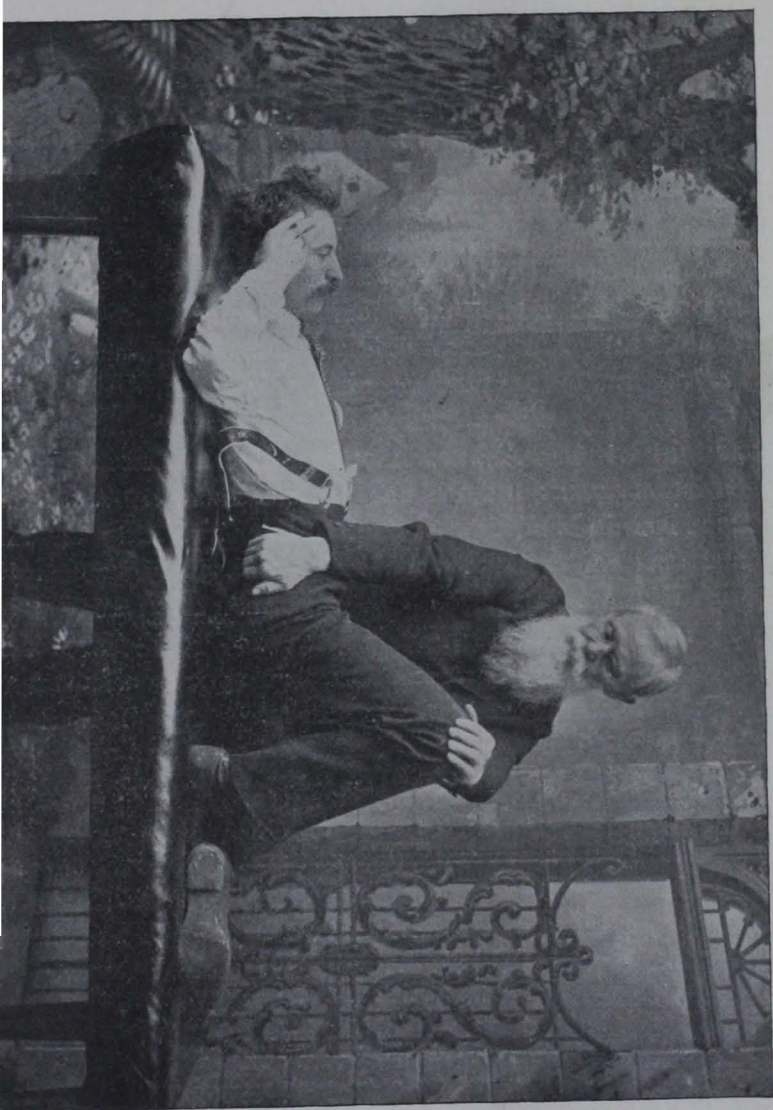
MENSURATION, or measurement of the chest, is of little practical importance, and hence seldom performed. The only measurement likely to be required is the circular or circumferential, in different parts of the chest, which is performed with either an ordinary graduated tape measure or a double tape measure, made by uniting two tapes in such a manner that they start in opposite directions from the same point at the mid-spinal line. The tapes are drawn around each side until they meet at the mid-sternal line, on a line immediately above the nipple, or on the level of the sixth rib near its attachment to the cartilage—the sixth costo-sternal joint—the patient first being directed to effect a complete expiration, the number of inches noted, and then to take a deep inspiration, the increase in inches noted, the difference between the two giving a rough estimate of the capacity of the lungs. In right-handed persons the right side is usually one-half to three-fourths of an inch longer than the left; if larger than this it is usually the result of some abnormal condition. In well-developed men the chest measures at the upper part about thirty-three to thirty-five inches during expiration, and is increased fully three inches upon inspiration.

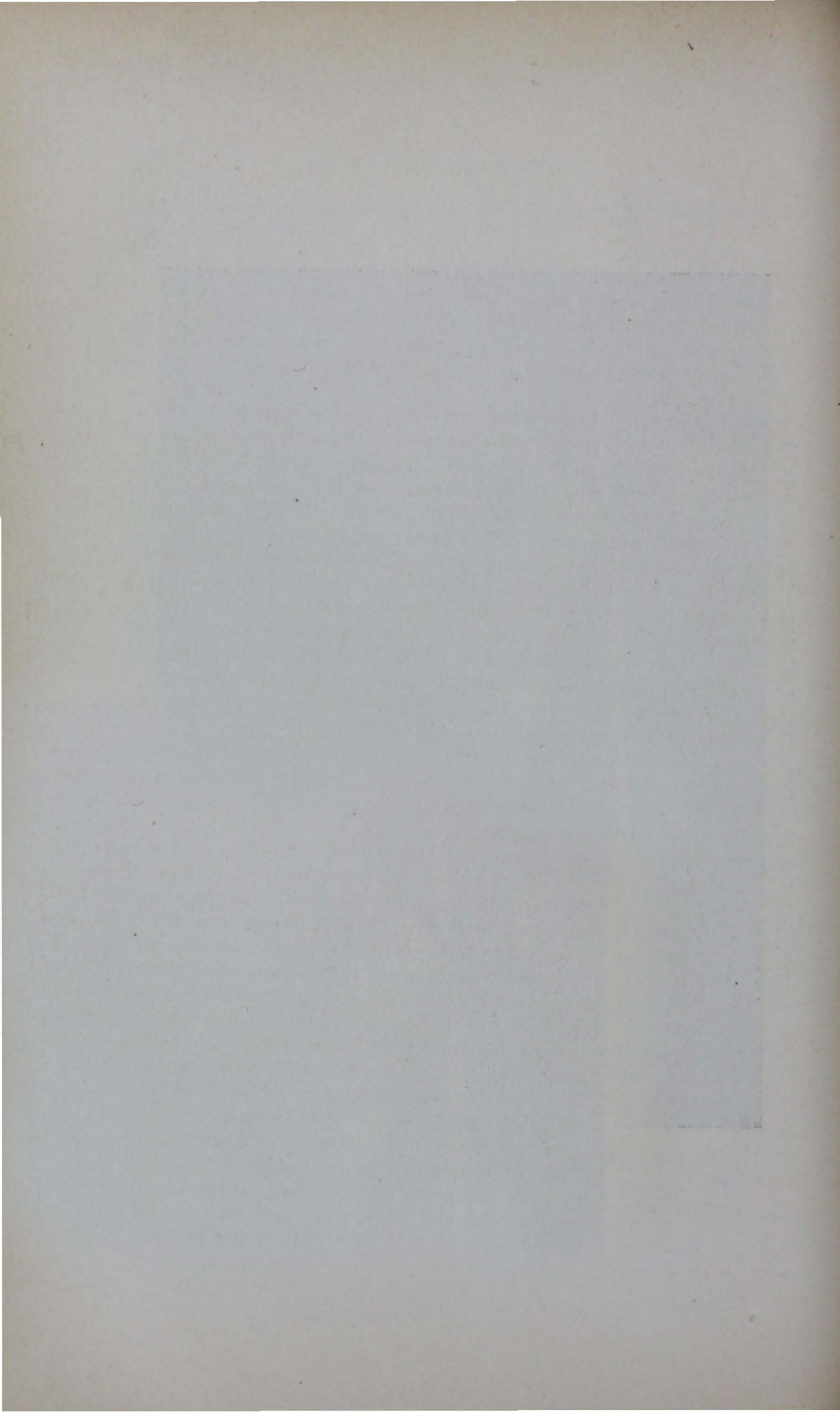
PERCUSSION.

PERCUSSION, or "the act of striking," to ascertain the composition of structures, affords signs and information of great value in diagnosis. There are two methods employed, immediate and mediate. Immediate, or direct percussion, is performed by striking the thorax directly with the points of the fingers or the palmar surface of the hand. This method of percussion has been generally abandoned, as it does not enable the physician to distinguish, with sufficient correctness, between the various shades of difference in the pitch or quality of percussion sounds.

Mediate, or indirect percussion, may be practiced in three different ways, to-wit: 1. With the finger of one hand interposed between the body percussed and the percussing finger. 2. With the finger acting as a pleximeter and the percussion hammer. 3. With the percussion hammer and the pleximeter.

The first of these modes affords the most correct and ready information regarding the resistance of the parts percussed. The skillful use of the fingers is more difficult to acquire than that of





the pleximeter and hammer; but if the examiner has acquired sufficient skill in its performance, an absolutely accurate result may be obtained. "He who is skilled in digital percussion will be able to percuss equally well with the hammer, the inverse of which does not always hold good." In addition to being proficient in the technical *modus operandi*, it is necessary to possess a sensitive ear, educated to distinguish between the various shades of the sounds.

When the fingers are employed, it is a matter of choice whether one or more fingers are used as the pleximeter. Usually the last phalanx of the first or second fingers of the left hand are used, the other fingers being raised from the chest, so as not to interfere with the sound vibrations; they should be applied firmly and evenly to the surface, thus preventing the slipping of the soft parts, and also to determine the resistance of the chest walls when the blow is given. The rounded ends of the first and second fingers of the right hand are used as a hammer, striking the pleximeter fingers in such a manner that the nails shall not touch the skin of the underlying fingers. The force employed varies in different regions, but usually, for the chest, should be only of moderate degree. forcible percussion is of use only when the sound of deep-seated organs is desired.

The stroke should be made perpendicularly to the surface and not slanting, as is too often done. The whole movement should proceed only from the wrist-joint, and ought not to be too rapid or unequal, or of great force, the fingers being rapidly withdrawn, so as not to interfere with the vibrations.

THE OBJECTS OF PERCUSSION are to elicit certain sounds, and the amount of resistance or elasticity of the organs percussed. The main sounds elicited by percussion are the dull, clear, and tympanitic. Familiarity with the intensity, character, and pitch of each of these sounds is essential.

When percussing the healthy chest, the sound obtained is termed the normal pulmonary resonance. It is of variable intensity, depending upon the force of the stroke employed, and the amount of adipose and muscular tissues covering the thorax, and the tension of the chest walls. There is no exact standard of the normal pulmonary or vesicular resonance, but if the two sides of the chest are compared, the normal standard of each person is obtained.

The character is termed pulmonary or clear, as characteristic of the healthy chest wall. The pitch is always relatively low.

The sounds elicited by percussing a healthy chest are not, however, alike over all its parts.

Anteriorly, the portion of lung above the clavicle yields a sound which becomes somewhat tympanitic as the trachea is approached. Over the clavicle the sound is clear and pulmonary at the center of the bone, but at the scapular extremity it is duller, and toward the sternum it becomes somewhat tympanitic. At the infra-clavicular region the resonance is clear and distinct, but little resistance being offered to the percussing finger, and the sound elicited may be taken as a type of the pulmonary resonance. In this region, however, a slight disparity exists between the two sides; on the right side the sound is less clear, shorter, and of a higher pitch than on the left side. In the mammary region of the right side the resonance of the lung is not so clear, the sound being modified by the size of the mamma and the upper border of the liver. On the left side the heart deadens the sound from the fourth to the sixth rib, and, in a transverse direction, from the sternum to the left nipple. This dull sound in the left mammary region is lessened in extent during full inspiration, and in emphysema, when the lung more completely covers the heart. In the infra-mammary region on the right side the percussion note is dull, except during the act of complete inspiration, when the liver is displaced downward by the inflated lung. In the left infra-mammary region the sound consists of a mixture of the dull sound of the heart and spleen, and of the clear sound of the lung, together with the tympanitic sound of the stomach. Over the upper part of the sternum—above the third rib—the sound is slightly tympanitic. Below the third rib, over the sternum, the sound is dull, due to the presence of the heart and liver.

The position exercises some influence on the results of percussion. More accurate results are obtained when the patient is standing or sitting than when recumbent. While the front of the chest is percussed, the arms should hang loosely by the sides; the hands may be clasped across the top of the head during the percussion of the axillary region; during the examination of the back the head must be bent forward and the arms tightly crossed in front.

On the posterior surface of the chest the sound also varies according to the part percussed. Over the scapulae the sound is duller than between these bones or below their inferior angles. Over the infra-scapular region a clear sound is obtained as far as the lower border of the tenth rib on the right side, where the

dullness of the liver begins. On the left side, below the angle of the scapula, the percussion sound is tympanitic if the intestines are distended, or it may be slightly dull if the spleen be enlarged. In the axillary region the sound is clear and distinct on each side. In the infra-axillary region of the right side the sound is duller, owing to the presence of the liver; at the corresponding situation on the left side, the sound is clear or tympanitic, from the distention of the stomach, and at the ninth or tenth rib of the left axillary region dullness and the sense of resistance mark the location of the spleen.

The sounds obtained by percussion of the unhealthy or abnormal chest are as follows: 1. Hyper-resonance, or an increase of the normal pulmonary resonance, is due to the relative increase in the proportion of air to the solid tissues of the lung, provided the tension of the chest walls be not altered, occurring in emphysema of the lungs, atrophy of the lungs, or consolidation of the opposite lung. 2. Dullness or an absence of resonance, due to the relative increase of solid tissues in proportion to the amount of air, as seen in the different stages of phthisis, in pneumonia, pleural effusion, and hydrothorax. The pitch is increased or heightened in proportion to the diminution of the amount of air and the increase of the solids. If there be entire want of resonance, the percussion note is said to be flat; if there be a slight decrease in the resonance of the part, the note is said to be impaired. The sense of resistance is greater, the more marked the consolidation of the lungs and the greater the tension of the chest walls. 3. Tympanitic, or the drum-like percussion note, is a non-vesicular sound, having the character elicited by percussing over the normal intestines; wherever heard it indicates the presence of air in conditions similar to that of the intestines, to-wit: inclosed in walls which are yielding, but neither tense nor very thick. When elicited over the chest it may be due to the transmitted sound of the distended stomach or colon. It is obtained over the chest in the pneumothorax, in moderate pleural effusions above the level of the liquid, over the seat of cavities in the pulmonary tissues, and in cedema of the lungs. The tympanitic percussion note differs from the normal pulmonary resonance in being more ringing in character and of a higher pitch. The amphoric or metallic sound is in reality a concentrated tympanitic sound of high pitch, and denotes a large cavity with firm, elastic walls. The cracked-pot or cracked-metal sound is another variety of the tympanitic sound. The condition most commonly

producing this sound is a cavity in the lung tissue, communicating with a bronchial tube. It requires for its development a strong, quick blow of the percussing finger, with the patient's mouth open.

Respiratory Percussion.—The percussion sound will vary greatly with the respiratory movements. If a full inspiration be taken and percussion performed, then a full expiration taken and percussion performed, and then the chest percussed during the normal respiration, slight changes in the character and pitch of the note are obtained, which otherwise would escape detection. Prof. Da Costa has designated this method respiratory percussion.

Auscultatory Percussion.—This method consists in listening with a stethoscope applied to the thorax, to the sounds elicited by percussion. "It is a serviceable means of determining with accuracy the boundaries of various organs, as those of the lungs or heart, or of the liver or spleen, and yields particularly exact results when carried out with the double stethoscope."

AUSCULTATION.

AUSCULTATION, or listening to the sounds produced within the chest during the act of respiration, coughing, or speaking, furnishes the most reliable means of studying the condition of the lungs, and is therefore the most valuable method of discriminating between the various conditions which may affect the lungs.

Auscultation is either immediate or mediate. It is immediate when the ear is applied directly to the chest, which may be either denuded or thinly covered. It is mediate when the sounds are conducted to the ear by means of a tubular instrument, termed a stethoscope. For ordinary purposes, immediate or direct auscultation is sufficient, but when it is desirable to analyze circumscribed sounds, as in diseases of the heart, or where the patient objects to this method, on the score of delicacy, or the auscultator objects, on account of the uncleanness of the person examined, the stethoscope is to be preferred. Moreover there are certain parts of the chest which can only be explored satisfactorily by the aid of a stethoscope, and again this instrument has the additional advantage of intensifying the sound.

In auscultation the following rules, formulated by Prof. Da Costa, should be observed: "1. Place yourself and your patient in a position which is the least constrained and permits of the most accurate application of the ear or stethoscope to the surface. Above all, avoid stooping, or having the head too low.

2. Let the chest be bare, or what is better, covered only with a towel or thin shirt. 3. If a stethoscope be employed, apply closely to the surface, but abstain from pressing with it. This may be obviated by steadying the instrument, immediately above its expanded extremity, between the thumb and the index finger. 4. Examine repeatedly the different portions of the chest, and compare them with one another while the patient is breathing quietly. Making him cough, or draw a full breath, is at times of service: especially the former, when he does not know how to breathe."

Sounds in Health.—If the ear be applied over the larynx or trachea of a healthy person, a sound is heard with both the act of inspiration and expiration. Its intensity is variable, its pitch high, and its quality tubular (to wit: a current of air passing through a tube—the larynx or trachea). The duration of the sound during inspiration being somewhat longer than during expiration. A short pause follows the act of expiration. This sound is termed the normal laryngeal respiration, and is identical in character, duration, and pitch, with an important morbid sound, termed bronchial respiration.

The sound heard by placing the ear over the lung tissue is different; it is produced in the very finest bronchial tubes and air cells by their expansion and contraction, and is termed the normal vesicular murmur. The inspiratory portion of the sound is of variable intensity, its pitch is low, its quality soft and breezy, designated vesicular; its duration is during the entire act of inspiration. The expiratory portion of the sound is not always perceptible; it is of feeble intensity, very low pitch, its character soft and blowing, and its duration much less than the act of inspiration. It is to be remembered, however, that the vesicular murmur will be found to vary in the different regions on the same side, and in corresponding regions on the two sides of the chest. These variations within the range of health are especially important, and should be memorized.

Infra-clavicular Region.—The vesicular murmur in this region on either side is much more distinct than over any other part of the chest. On the left side the inspiratory sound is of greater intensity, of lower pitch, and more distinctly vesicular in quality than that heard upon the right side. On the right side the expiratory sound is nearly or quite the same length as the inspiratory sound, and is higher in pitch and more tubular in quality than the expiratory sound upon the left side.

Supra-scapular Region.—Owing to the small number of air vesicles and the large number of bronchial tubes, and their nearness to the surface, the respiratory murmur has an intense, high-pitched, tubular and expiratory quality.

Scapular Region.—Compared with the infra-clavicular region, the respiratory murmur heard over the scapulae on either side is more feeble, and the vesicular quality less marked.

Inter-scapular Region.—The murmur in this region differs from the normal laryngeal breathing only in intensity and duration.

Infra-scapular Region.—The murmur in this region very closely resembles that heard in the left infra-clavicular region.

Mammary and Infra-mammary Regions.—The murmur in these regions differs from that heard in the infra-clavicular region, in being of less intensity.

Axillary and Infra-axillary Regions.—The respiratory sound in the axillary regions is as intense as in any portion of the chest. In the infra-axillary regions the intensity is less and the pitch lower.

Voice in Health.—If the ear be applied over the larynx or trachea of a healthy person, and he be directed to count "twenty-one, twenty-two, twenty-three," in a uniform tone and with moderate force, there is perceived a strong resonance, with a sensation of concussion or shock, and a sense of vibration, thrill, or fremitus, the voice seeming to be concentrated and near the ear. Often the articulated words are distinctly transmitted (laryngophony). The sounds thus heard are termed the normal laryngeal resonance.

If the ear or stethoscope be applied over the third rib anteriorly, on either side of the chest of a healthy person, and he be directed to count "twenty-one, twenty-two, twenty-three," in a uniform tone, with moderate force, a confused distant hum is perceived of variable intensity, accompanied with more or less vibration, thrill, or fremitus, most distinct in adults, but notably weaker in women than in men. This sound is termed the normal vocal resonance.

If the ear or stethoscope be applied over the third rib anteriorly of a healthy person, and he be directed to whisper, in a uniform manner, the words, "twenty-one, twenty-two, twenty-three," there is heard a sound corresponding closely in character to the sound of expiration over the same region during the act of forced respiration; or, in other words, a feeble, low-pitched, blowing

sound. This sound is termed the normal bronchial whisper, and is produced by the air in the bronchial tubes during the act of respiration.

Sounds in Disease.—The vesicular murmur may undergo, in disease, changes in its intensity, its rhythm, and in its character.

The intensity of the respiratory murmur may be: 1. Exaggerated or increased. 2. Diminished or feeble. 3. Absent or suppressed.

EXAGGERATED RESPIRATION differs from the normal vesicular respiration only in an increase in the intensity of the respiratory sounds. When general over one lung, it will usually indicate deficient action of other parts. In this manner an effusion compressing the lung, one-sided deposits, obstruction of the bronchial tubes by secretion, or inflammation of the lung structure, necessitate a supplementary respiration in a healthy portion of the same lung or the lung upon the opposite side. From its resemblance to the loud, strong, quick respiration of young children, it has been termed puerile respiration. Exaggerated respiration is therefore to be regarded as indirect evidence of disease in some portion of the pulmonary tissue.

DIMINISHED RESPIRATION, called also senile respiration, as being characteristic of old age, is characterized by diminished intensity and duration of the sound. In the large majority of instances the inspiration suffers the greatest, the expiratory sound not diminishing in the same proportion. In asthma, emphysema, diseases of the larynx and bronchial tubes, pleuritic pain, rheumatism or paralysis of the chest walls, or in thickening of the pleural membrane, we observe superficial or diminished respiration. When one side of the chest is partially filled with fluid, we may hear a deep-seated but feeble breath sound.

ABSENT OR SUPPRESSED RESPIRATION occurs whenever the action of the lung is suspended; this may be from external pressure, as when the lung is compressed by the presence of fluid or air in the pleural cavity, or when complete obstruction of the bronchial tubes prevents the air from either entering or escaping from the lungs.

The rhythm of the respiratory murmur may be: 1. Interrupted or jerky. 2. The interval between inspiration and expiration prolonged. 3. Expiration prolonged.

In health the inspiratory and expiratory sounds are even and continuous, with a short interval between each act; this may be altered in disease, and both sounds, especially the inspiratory,

have an interrupted or jerky character, termed "cog-wheel respiration."

The JERKY BREATHING is noted in some spasmodic affections of the air tubes, in hysteria, the earliest stages of pleurisy, pleurodynia, and the early stages of pulmonary phthisis. It is most frequently associated with phthisis, due probably to the adhering to the walls of the finer bronchial tubes of tough mucus, which obstructs the free entrance and exit of the air; it is usually most notable under the clavicles.

The INTERVAL BETWEEN INSPIRATION AND EXPIRATION MAY BE PROLONGED, instead of these two sounds closely succeeding each other. When this occurs the inspiratory sound may be shortened, or the expiratory sound may be delayed in its commencement. If the inspiratory sound is shortened, it is the result of consolidation of the lungs; if the expiratory sound is delayed, it is the result of lessened elasticity of the lung structure, and is most commonly associated with emphysema.

PROLONGED EXPIRATION denotes that the air is obstructed in its exit from the lungs. It may be the result of diminished elasticity, the result of emphysema, or from the deposit of tubercles, which impair the contractile power of the lungs. If the former, it is associated with clearness on percussion; if the latter, however, with impaired resonance on percussion. When prolonged expiration is detected at the apex of the lung, and is associated with impairment of the normal pulmonary resonance, it is for the most part the result of a tubercular deposit.

The QUALITY of the respiratory murmur may be: 1. Harsh, termed vesiculo-bronchial respiration. 2. Bronchial. 3. Cavernous. 4. Amphoric.

HARSH RESPIRATION, or, as it is termed by Prof. Da Costa, vesiculo-bronchial respiration, is that variety in which both the inspiratory and expiratory sounds have lost their natural softness. It generally indicates more or less consolidation of lung tissue. In normal vesicular respiration the sounds produced by the air expanding the air cells and finer bronchial tubes obscures the sound produced by the passage of air through the larger bronchial tubes, the healthy lung being an imperfect conductor of sound, so that as soon as any portion of the lung becomes consolidated the vesicular element of the respiratory sound is diminished, the bronchial element becoming prominent. Harsh respiration is, then, a union of the vesicular and bronchial sounds, being a vesicular sound mixed with some of the qualities of a



PLATE XXX.—Expansion of Chest by Two Persons.

bronchial sound, the expiration being prolonged, and tubular in character. It is present when the bronchial mucous membrane is swollen, as in the earlier stages of bronchitis; also, in the earlier stages of phthisis and pneumonia.

BRONCHIAL RESPIRATION is characterized by an entire absence of all the vesicular quality. Inspiration is of high pitch and tubular in character; expiration still higher in pitch, of greater intensity, prolonged and tubular in quality; the two sounds being separated by a brief interval. The bronchial respiration encountered in disease closely resembles that heard in health over the larynx or trachea. Whenever bronchial respiration is present where, in health, the normal vesicular murmur should be heard, it indicates consolidation of the lung structure.

CAVERNOUS RESPIRATION is a variety of the bronchial respiration, at least so far as the quality of the sound is concerned. It is essentially a blowing sound, yet not always heard during both the acts of inspiration and expiration, being often only perceptible in the one, and in the other mixed with gurgling sounds. Its pitch is lower than that of ordinary bronchial respiration, and its character is hollow. For its production there must be a cavity of considerable size in the lung substance, not filled with fluid, near the surface of the chest walls, communicating with a bronchial tube. It is met with most commonly in the last stages of pulmonary consumption, although hollow spaces of any kind, from abscesses or dilatation of the bronchial tubes, occasion it.

AMPHORIC RESPIRATION is a blowing respiration, having a musical or metallic quality. It is a variety of bronchial respiration produced in a large cavity with firm walls, permitting the reflection of the sound. An imitation of this sound, though only an imperfect one, is produced by blowing over the mouth of an empty bottle. The amphoric character is present with both the acts of inspiration and expiration. Amphoric or metallic respiration is indicative of a large cavity, not common in phthisis, but much oftener heard at the upper part of a lung compressed by fluid or air, as in pneumo-hydrothorax.

RALES.

RALES, or, as they are termed, adventitious sounds, because they have no analogue in the healthy state, can not be considered as modifications of the normal respiration. Grouped according to the anatomical situation in which they are produced, we have:

1. Laryngeal and tracheal rales. 2. Bronchial rales. 3. Vesicular rales. 4. Cavernous rales. 5. Pleural rales.

RALES may be divided into two groups, according to their character, to-wit: dry and moist, and may be audible either during the act of inspiration or expiration, or during both.

DRY RALES, for the most part are produced by the vibration of thick fluids which the air can not break up, and which, therefore, temporarily lessens the caliber of the bronchial tubes. When this narrowing exists in the smaller bronchial tubes the resulting sound is high-pitched or the rale is said to be sibilant or whistling; when the narrowing exists in the larger bronchial tubes, the rale is low-pitched, more musical in character, or sonorous. Dry rales are particularly prone to be dislodged by coughing, and when they are uninfluenced by the acts of breathing or coughing, they do not depend upon the presence of secretions, but upon the narrowing of the air tubes from the pressure of tumors, or from a thickened fold of mucous membrane, or from a spasmodic contraction of the air tubes.

MOIST RALES are those produced by the air passing through thin fluids, such as mucus, blood, serum, or pus, during the respiratory movements. When the fluid exists in the smaller bronchial tubes, the rales are termed small bubbling, mucous, or subcrepitant. When the fluid exists in the large bronchial tubes, the rales are said to be large bubbling or mucous. Moist rales are not persistent, but vary in intensity, and shift their positions as the air drives the liquid which occasions them before it, or during violent attacks of coughing, or after copious expectoration.

LARYNGEAL AND TRACHEAL RALES are those produced within the larynx and trachea, and may be either moist or dry. The moist or bubbling sounds, produced when mucus or other liquids accumulate in this part of the air tubes, frequently occur in the moribund state, and are then known as the "death rattles." When not due to this condition they denote either insensibility to the presence of liquid, as in stupor or coma, or inability to remove liquid by the act of expectoration, as in croup or inflammation of these parts in the very feeble. The dry rales produced within the larynx or trachea are generally caused by spasm of the glottis, to-wit: laryngismus stridulus, whooping cough or croup, or from the presence of a foreign body in the part.

BRONCHIAL RALES, resulting from the passage of air through the thin liquid, occasion bubbling sounds. When the liquid is

present in the large-sized bronchial tubes, the rales are said to be large bubbling, or large mucous rales, occurring in acute or chronic bronchitis. When the liquid is in the smaller bronchial tubes, the resulting rale is called small bubbling, small mucous, or subcrepitant, also occurring in acute or chronic bronchitis. Bronchial rales, due to the narrowing of the tube by its spasmodic contraction, or to the presence of tough, tenacious mucus, which is set in vibration by the passage of air through the bronchial tubes, are termed dry bronchial rales. Frequently they are suggestive of certain familiar sounds, such as snoring, cooing, humming, or wheezing, or they are often musical notes. When produced in the smaller bronchial tubes, they are termed sibilant, or high-pitched rales; when produced in the larger bronchial tubes, they are termed sonorous or low-pitched rales. They principally occur in the dry stage of bronchitis, or during an asthmatic paroxysm.

THE VESICULAR RALE, or, as it is more commonly termed, the crepitant rale, is produced within the air vesicles or at the terminal portion of the smaller bronchial tubes. It is to be distinguished from very fine bubbling sounds, or the subcrepitant rale. "It is a very fine sound, or rather series of very fine uniform sounds, occurring in puffs and limited to inspiration."—Da Costa. It resembles the noise occasioned by throwing salt on the fire, or alternately pressing and separating the thumb and finger, moistened with a solution of gum arabic, and held near the ear, or rubbing together a lock of dry hair near the ear. The crepitant rale is produced by the movement of fluid in the air cells in the finest extremities of the bronchial tubes, or by the forcing open, during the act of inspiration, of the air cells agglutinated by exuded lymph. These sounds may be defined as being very fine, dry, crackling sounds, heard at the end of inspiration. They are usually present in the first stage of pneumonia, but when limited to the apices, are significant of the incipient stage of phthisis.

CAVERNOUS RALES, or, as they are commonly termed, gurgling rales, are produced in a pulmonary cavity of considerable size, containing a large amount of liquid communicating freely with a bronchial tube. The sound is occasioned by the agitation of the liquid within the cavity, and may be compared to the sound produced by the boiling of liquid in a flask or large test-tube. The sound is sometimes high-pitched or musical, whence it has been termed "amphoric gurgling," but it is generally low in pitch. The rale is heard almost exclusively during the act of inspiration,

and its diagnostic importance relates to the advanced stage of phthisis.

PLEURAL RALES may be either dry or moist. Dry pleural rales, or, as they are more commonly termed, friction sounds, are occasioned when the surfaces of the pleura are covered with a glutinous substance, preventing the unobstructed movements of the pleural surfaces upon each other during the respiratory acts, for in health these movements occasion no sound whatever. The sounds are generally interrupted or irregular, occurring during the act of inspiration or expiration, or during both acts. The character of the sound is variable, being termed rubbing, grazing, rasping, grating, or creaking, according to the intensity of the respiratory acts and the amount of exudation. They are distinguished by the apparent nearness of the sound to the ear, and are usually intensified by firm pressure of the stethoscope upon the chest. When the chest is fixed, especially at the lower two-thirds, and the ear applied over the seat of the sound, it will be found to have disappeared. The sound is diagnostic of the first stage of pleurisy.

MOIST FRICTION sounds are produced in the same manner as those just mentioned, the exudation being softened in character. This sound is frequently confounded with moist bronchial rales, and its discrimination is often only positive by a careful study of the symptoms and concomitant signs present.

METALLIC TINKLING is a sign of pneumo-hydrothorax with perforation of the lung, and when found is usually diagnostic of this affection, although it occurs rarely in cases of phthisis with a large cavity, the physical conditions for its production being similar to those in pneumo-hydrothorax, to-wit: a space of considerable size containing air and liquid, the space communicating with the bronchial tubes. It consists of a series of tinkling sounds, of high pitch, silvery or metallic in tone, and is very well imitated by dropping a small marble into a metallic vase. It occurs irregularly, not being present with every act of breathing, and may be produced by forced, when not heard during tranquil, breathing.

Were it not for the location and the absence of concomitant signs, it might be confounded with tinkling sounds sometimes produced within the stomach and transverse colon.

THE VOICE IN DISEASE.

THE NORMAL VOCAL RESONANCE, as heard over the third rib

of the chest anteriorly on either side may have its intensity—1. Diminished or absent. 2. Increased or exaggerated.

Or its resonance may be of the character of—3. Bronchophony. 4. Pectoriloquy. 5. Ægophony. 6. Amphoric voice.

THE VOCAL RESONANCE MAY BE DIMINISHED OR FEEBLE in bronchitis with free secretion, pleurisy with effusion, or in complete consolidation of the lung structure and the bronchial tubes. THE VOCAL RESONANCE IS ABSENT in pneumothorax and in pleurisy with effusion. EXAGGERATED VOCAL RESONANCE differs from the normal vocal resonance in a slight increase of its density. It denotes a slight degree of solidification of lung tissue, and is chiefly of value in the diagnosis of tubercle.

BRONCHOPHONY, or the voice concentrated near the ear, raised in pitch and in intensity, denotes complete consolidation of the pulmonary tissue in those parts in which the sound is abnormally present.

PECTORILOQUY is complete transmission of the voice to the ear, the articulated words being distinctly recognized. It has a close resemblance to the resonance heard over the larynx in health. Its presence indicates either a pulmonary cavity or more complete consolidation—in other words, an exaggerated bronchophony.

ÆGOPHONY is a modification of bronchophony, consisting in tremulousness of the voice, its character nasal or bleating, somewhat suggestive of the goat. When heard it may be considered a sign of pleurisy with slight effusion, or of pleuro-pneumonia.

AMPHORIC VOICE, or "the echo," as it is sometimes called, is a musical sound, of a somewhat hollow, metallic character, like that produced by blowing into an empty bottle. It is sometimes produced in large cavities within the lung, but is especially incident to pneumothorax.

INCREASED BRONCHIAL WHISPER is a sound in which the whispered words are abnormally intense, and higher in pitch than the normal bronchial whisper. It has the same significance as exaggerated vocal resonance.

SUCCUSSION.

The succussion or splashing sound is pathognomonic of one affection, namely, pneumo-hydrothorax. It is obtained by jerking the body of a patient with a quick, somewhat forcible movement, the ear being very near or in contact with the chest. The sound is like that produced when a small keg, partially filled

with liquid, is shaken. The only liability to error is in confounding this splashing sound with that sometimes produced within the stomach; but attention to concomitant signs and the symptoms will always protect against this error.

ASSOCIATION OF THE PHYSICAL SIGNS (DA COSTA).

As many of the signs elicited by the various methods of physical diagnosis depend on the same physical conditions, they may be studied in groups. The following will be usually found to be associated:

PERCUSSION.	AUSCULTATION OF RESPIRATION	AUSCULTATION OF VOICE.	VOCAL FREMITUS.	PHYSICAL CONDITIONS.
Clear. . . .	Vesicular murmur or its modifica- tion.	Normal vocal resonance.	Unimpaired.	Lung tissue healthy or nearly so; at any rate, no increased density from de- posits, etc.
Dull. . . .	{ Bronchial, or harsh respiration.	Broncho- phony.	Increased.	Solidificat'n of pul- monary structure.
	{ Absent respi- ration.	Absent voice.	Diminished or absent.	Effusion into pleu- ral sac.
Tympanitic.	Cavernous or feeble, ac- cording to cause.	Uncertain; cavernous or diminished.	Uncertain, mostly di- minished.	Increased quantity of air within the chest, due to a cav- ity or to over-dis- tention of the air cells.
Amphoric or metallic.	Amphoric or metallic.	Amphoric or metallic.	Mostly dimin- ished.	Large cavity with elastic walls.
Cracked metal sound.	Cavernous respiration.	Cavernous respiration.	Uncertain.	Generally a cavity communicating with a bronchial tube.

DISEASES OF NASAL PASSAGES.

ACUTE NASAL CATARRH.

SYNONYMS. Acute rhinitis; acute coryza; "cold in the head."

DEFINITION. An acute catarrhal inflammation of the mucous membrane (pituitary or Schneiderian membrane) lining the nose and the cavities communicating with it; characterized by feverishness, feeling of fullness and discomfort in the head, and attended with discharges of fluid, watery, mucous, or mucopurulent in character.

PATHOLOGICAL ANATOMY. Hyperaemia of the mucous membrane, attended with redness, swelling, and deficient secre-

tion. This tumefaction is partly increased by an oedematous infiltration, causing a quantity of colorless, salty, and very thin liquid to flow from the nose. The secretion soon assumes the character of thick, tenacious mucus or muco-pus, due to the desquamation of the epithelium of the nasal mucous membrane, and a copious generation of young cells, the hyperaemia and the swelling of the membrane diminishing. The respiratory portions of the nasal fossae are more markedly affected than are the olfactory. Rarely, and then in new-born infants and those affected with the eruptive fevers, the exudation in the nasal passages is of a fibrinous nature, somewhat similar to that observed in diphtheria.

CAUSES. Atmospherical changes are the most frequent and influential. Exposure of the neck to a draught of cold air, or of the feet and ankles to cold and dampness, or changing from a warm to a cold atmosphere suddenly, are among the most usual causes. Irritating gases and vapors, dust, certain powders, as ipecac and tobacco. The scrofulous taint and the rheumatic diathesis seem to render the mucous membrane susceptible to frequent attacks. Acute coryza is usually present in the initial stage of measles and influenza. Epidemic influence occasionally prevails on an extensive scale. The poison of syphilis and the use of iodide of potassium not unfrequently act as exciting causes. At times the catarrh seems to spread to contagion.

SYMPTOMS. "A cold in the head" is usually preceded by a feeling of lassitude or weariness and more or less frontal headache; then occur irregular chilly sensations in the back, followed by more or less feverishness and an uncomfortable feeling of dryness in the nares, with a strong inclination to sneeze. This is soon followed by an abundant watery and saline discharge, which is continually dripping from the nostrils, or occasions an attack of sneezing followed by blowing the nose, which relieves the congested and swollen membrane for a few moments. The relief is temporary, however, the fullness of the head and difficult obstructed nasal respiration rapidly returning. The anterior nerves are red and inflamed, and the eyes red and suffused with tears, through partial or entire closure of the tear ducts. The discharge soon assumes a purulent character. The voice has a peculiar tone, rather nasal and muffled in character. Within a few days the swelling subsides, and secretion lessens, health being restored in about ten days from the beginning of the attack. When the attack has almost terminated hard crusts may form

within the nostrils, either on the septum or turbinated bones, which are with difficulty expelled by blowing the nose.

COMPLICATIONS. Irritation and swelling of the upper lip, from repeated blowing of the nose and the constant contact of the irritating discharge. Extension of the catarrh to the ethmoid or sphenoid cavities or frontal sinus, causing increased and severe frontal headache; or to the antrum of Highmore, causing tenderness over one or both cheeks. Extension to the Eustachian tube and middle ear, causing impaired hearing; or to the pharynx or larynx, causing cough.

DURATION. In mild cases about one week; severe cases continue, more or less marked, for two weeks.

PROGNOSIS. Favorable if early and proper treatment be instituted: if neglected, the catarrh tends to become chronic. In very young infants, if the catarrh is not rapidly relieved, loss of flesh and strength occur, from inability to take the breast.

THE TREATMENT.

This affection is wholly due to capillary congestion in the mucous and submucous membrane (in the lining) of the nose—all caused by muscular contraction, arresting the return of venous blood to the heart. The remedy is: Take off the pressure from the veins, and send the arterial blood onward, and the debris is dissolved, moved out through the lymphatics into the veins, and healthy blood takes the place of it, renews life's forces, and health results. The pressure will usually be found on the jugulars. Some one or more of the muscles of the neck will be found to have their fibers contracted, either on the veins themselves, or on the nerves supplying the muscle through which it passes to reach the mucous membrane, producing a paralysis of the nerves supplying the membrane, or closing down on and around the veins so that the blood in the veins can not return, nor can the waste material enter the channel of the veins so as to be removed. In either case the results are the same—capillary and venous stasis. The remedy at once suggests itself to the Osteopath, or to any rational practitioner. The results are just as certain as that two and two make four. The head, neck, and throat treatment, raising the clavicles, chest muscles, and stimulating the vaso-motor area, stretching the neck—in a word, restoring general circulation, by taking off the pressure from all sympathetic nerve filaments—cures catarrh. Carry out the general treatment, from the beginning of the first move, as directed on the neck and throat, being particularly careful to free thoroughly

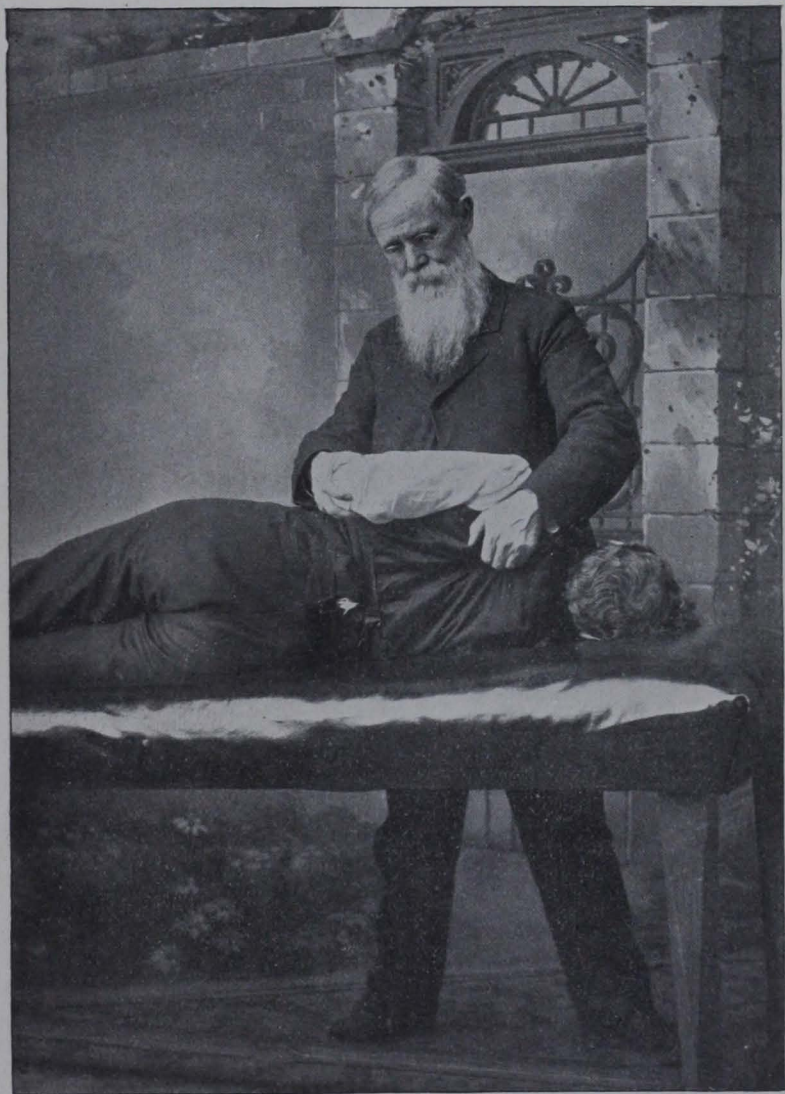
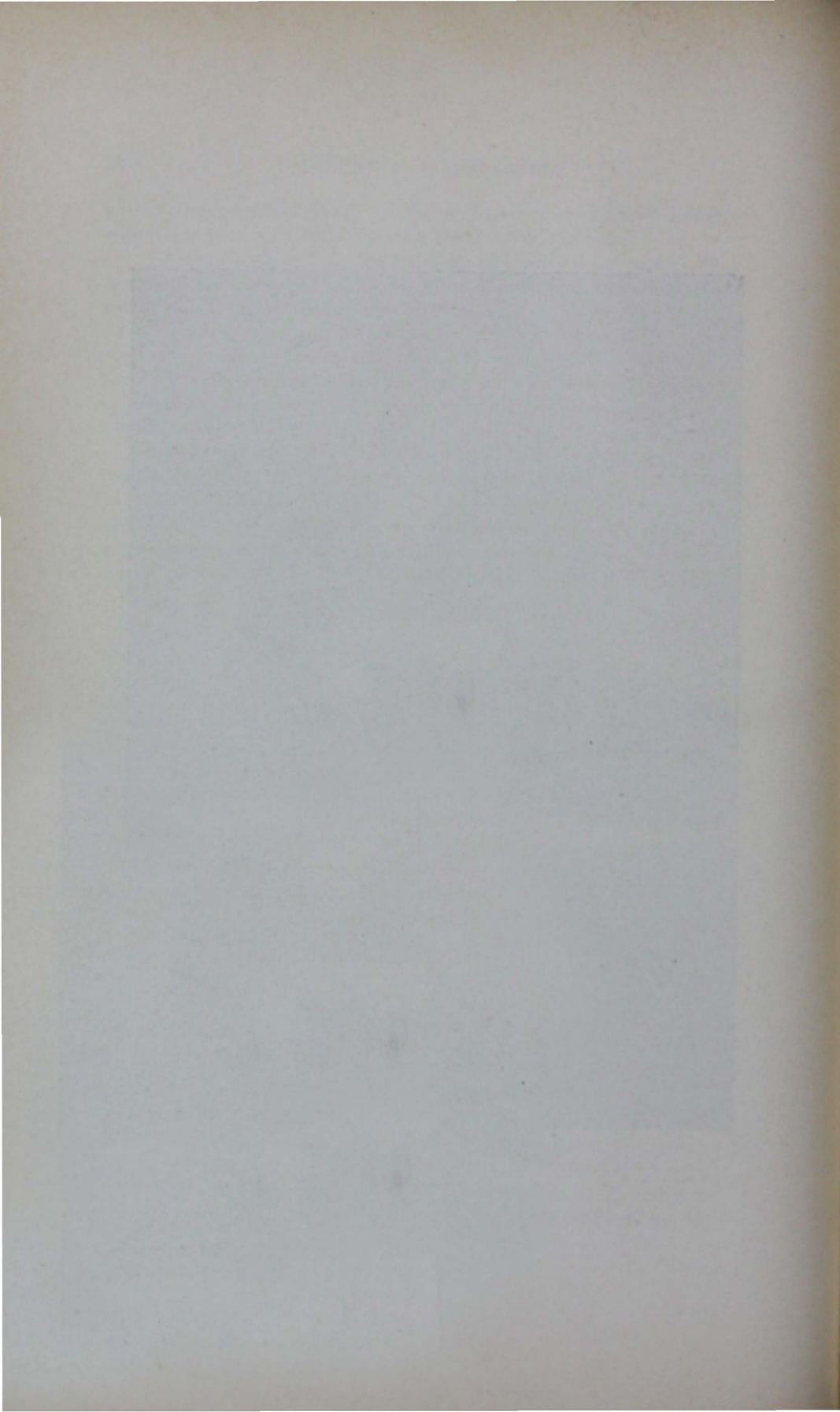


PLATE XXXI.—Back and Shoulder Treatment.



all the muscles of the neck, and raise the clavicles, chest, and chest muscles, stretching the arms upward during deep inhalations as the fingers are lowered down the spinal column. Due regard is to be paid to the knee and chest move, and the mucous membrane treatment in the fauces and the soft palate. The last treatment is made with the forefinger inserted in the mouth, the palm surface placed just posterior to the last molar tooth region, press against the posterior border of the soft palate, letting the finger slide along its border to the opposite side, then back to place of beginning. The divulsion of the nostrils should be attended to during the process of treatment. The patient should be instructed in the manner of breathing at stated intervals and sittings, oxygenating the blood several times a day. The use of stimulants to be interdicted—all kinds. Treatments every day, or at least every other day, and a cure may be relied upon in a month or six weeks, at farthest.

CHRONIC NASAL CATARRH.

SYNONYMS. Chronic rhinitis; chronic coryza.

DEFINITION. A chronic inflammation of the mucous membrane lining the nasal passages, with more or less alteration of structure; characterized by a sensation of fullness in the nares, increased secretion, and a perversion of the special sense of smell and of hearing.

CAUSES. The result of repeated attacks of the acute variety; inhalation of irritating vapors and dust; syphilis and scrofula.

PATHOLOGICAL ANATOMY. The mucous membrane of the nares is thickened, of a dark red, sometimes grayish color, the superficial veins dilated and varicose, often forming polypoid enlargements. In many cases there is ulceration of the structure, with more or less loss of substance; the secretion is thick, tough, of a greenish character, and often very foetid; large collections of dried mucus are often formed upon the turbinated bones and septum.

SYMPTOMS. A feeling of fullness in the nares, increase of the secretion, the character being thick and greenish, which, dropping posteriorly into the pharynx, causes paroxysms of "hawking," which are more marked in the morning immediately after rising. The special sense of smell is more or less impaired, and in many cases entirely abolished; the special sense of hearing is

more or less diminished, from an extension of the inflammation to the Eustachian tubes; the voice has a peculiar nasal intonation. An almost constant dull frontal headache, associated with a feeling of weight, showing the extension of the disease to the infundibulum and frontal sinus. Sudden changes of temperature cause acute exacerbation of these symptoms, when there is superadded difficult nasal respiration. If ulceration of the nares occur, the discharge has a foetid odor. This condition is termed ozaena.

From extension of the inflammation to the nasal duct or its obstruction, the tears flow over the malar eminence (epiphora), leading to more or less congestion of the eyes.

DIAGNOSIS. Hypertrophy of the turbinated bones and nasopharyngeal catarrh are constantly misnamed chronic nasal catarrh. The rhinoscope readily determines the diagnosis.

PROGNOSIS. Permanent cure is seldom obtained; the disease being so decidedly chronic and obstinate, the treatment is of necessity protracted, and the majority of patients tire of it before a complete cure is effected.

THE TREATMENT.

In chronic catarrhal conditions we find more or less rigidity in the muscles of the neck. After treating the back of the neck, stretching the same and rotating the head while the neck is extended, the angles of the inferior maxillary are thoroughly manipulated, the ears strongly vibrated, the temples vibrated, the forehead manipulated, the facial nerve exits from the foramina duly desensitized and vibrated, and the inner canthi thoroughly stimulated, the sides of nose duly and strong vibrated, the sphincters divulsed, and the superior maxillaries duly vibrated; the neck muscles close up under the angles of the inferior maxillary should be thoroughly relaxed, pulled, and all the neck muscles freed from rigidity as much as possible every treatment; then the clavicles raised, the chest muscles and ribs extended during deep inspirations, and the neck stretched by taking hold of the back of the neck with the thumb and fingers of one hand, the other arm circling under the chin, the chin resting in the bend of the arm, and with a gentle, steady, upward raise of the whole body, the fingers on the back of the neck adjust all muscles, bones, etc., there as the neck is stretched and gently rotated, and swayed sidewise, backward and forward. The veins and lymphatics are thus freed, the congestion relieved, and arterial blood sent in to supply the place of the waste material, through the capillaries.

DISEASES OF THE MOUTH.

STOMATITIS AND GLOSSITIS.

Catarrhal Stomatitis.—Acute catarrhal inflammation of the mouth, fauces, tongue.

Apthous Stomatitis.—A fibrinous or croupous exudation of the follicles of the mouth.

Ulcerative Stomatitis.—Or diphtheritic stomatitis, or soreness of the mouth.

Parasitic Stomatitis.—Commonly named Thrush, a disease of childhood generally.

Glossitis.—An inflammation of the parenchyma of the tongue, either acute or chronic.

Gangrenous Stomatitis.—Or the cancrum oris; noma; water cancer.

These come under the general treatment for freeing the circulation of the blood vessels and lymphatics of the neck. It will be found that the jugulars are not carrying back the fluids to the dumping ground (the heart) for all the debris that accumulates in the environments of the capillaries and the beginnings of the lymphatics, and the result of this accumulation is decomposition of elements and precipitation of incompatible anatomic cells that should be held in solution in the blood—and would have been had there been freedom of the circulation. It is not enough that the capillaries be free, but the channels of all of the vessels returning the fluids back to the heart must be free, and any undue pressure on the nervous system supplying any part, however delicate, produces changes that become factors in pathological conditions. From these premises it is readily understood what a magnificently stupendous subject we have under consideration—that of coordination of every tissue in the body with every other tissue; the rightful appreciation of which, in the comprehension of its importance, becomes marvelously interesting. To realize the stupendous fact that our life depends upon the rightful adjustment of the various parts of the system, and to know how to make these adjustments, are accomplishments that are not usually attained in our farthest advanced institutions of classic lore, hence this is a revelation far in advance of anything realized or thought possible by the dominant schools outside of the “indicated remedy” or by some “contraria-curantur” compound introduced into the sys-

tem with supposed power to lay hold of the "materies morbi" and hurl it from its lurking place bodily. "Expectation's hollow dreams" have not been realized, and it has been left for the Osteopath to reveal to the world the proper means of accomplishing, in a large majority of instances, the desired object, and with a certainty never before known, cure many supposedly incurable affections. While it is not a "cure-all," yet it is a multifarious measure that demands the attention and appreciation of the would-be healer of diseases.

THE TREATMENT.

The treatment of all of the affections named begins in the vaso-motor nervous area. Freedom of all of the muscles on all sides of the neck, in the usual way; the raising of the clavicles, the treatment of the spine, the splanchnics, the liver, in fact the general treatment, or whatever parts are indicated, will change the pathology of all—mouth, throat, and stomach troubles—to a physiological one. Thorough treatment must be made, and repeated every six to twenty-four hours, occupying fifteen to twenty minutes.

DISEASES OF THE PHARYNX.

ACUTE CATARRHAL PHARYNGITIS.

SYNONYMS. Catarrhal tonsillitis; angina catarrhalis; acute "sore throat."

DEFINITION. An acute catarrhal inflammation of the mucous membrane of the tonsils, uvula, soft palate, and pharynx; characterized by rigors, fever, painful deglutition, coughing, or constant desire to clear the throat, with a more or less decided nasal intonation of the voice.

CAUSES. Exposure to cold and damp; swallowing hot fluids or food; during the prevalence of scarlatina, measles, erysipelas, influenza, diphtheria, or variola.

PATHOLOGICAL ANATOMY. The mucous membrane and submucous tissues of the uvula, soft palate, fauces, tonsils, and pharynx are congested, red, and swollen; the secretion is at first lessened or entirely arrested, later it is increased, but of a thick, tenacious, opaque character. The swelling is most evident at the

uvula, due to the amount of relaxed submucous tissue, which is especially thick and long, often resting on the root of the tongue ("the palate is down"). Frequently one or both tonsils are swollen to such an extent that the fauces are completely occluded, and the condition is mistaken for the graver phlegmonous tonsillitis. In severe attacks of catarrhal angina, white or grayish-white membranous masses form in small, irregular, roundish spots on the reddened mucous membrane of the tonsils, soft palate, and pharynx, causing the affection to be frequently mistaken for diphtheria.

SYMPTOMS. The onset is usually sudden, with rigors, fever, thirst, headache, loss of appetite, coated tongue, bad taste, foul breath, dryness in the throat, painful deglutition, and constant desire to clear the throat, due to the increased length of the uvula; as the inflammation proceeds the secretions are increased, the fluid often filling the mouth and also causing a constant desire to swallow, each act being associated with acute pains. Not infrequently earache adds to the patient's distress, from extension of the "catarrh" to the Eustachian tubes and tympanum.

In severe attacks of catarrhal pharyngitis, cases which, from the intense hyperaemia, have been termed erysipelatous or erythematous pharyngitis, the muscles of the palate are infiltrated with serum, which greatly interferes with their function. Under normal conditions the contraction of the muscles of the anterior half arches of the palate prevents the return of food and drink into the mouth; while the contraction of the muscles of the posterior half arches, together with the uvula, closes the passage to the nose; if the function of these muscles be impaired, fluids would be driven through the nose or back into the mouth by the contractions of the pharynx in the act of deglutition.

In all affections of the pharynx a nasal tone is pathognomonic, especially if the muscles of the half arches are interfered with.

VARIETIES. Exanthematous Pharyngitis is the form of the affection complicating the acute infectious diseases, such as scarlatina, measles, influenza, and smallpox.

Erysipelatous Pharyngitis is the form complicating facial erysipelas; rarely, however, the affection begins in the pharynx, spreading to the face and other parts.

Gangrenous Pharyngitis may occur with diphtheria, scarlatina, erysipelas, smallpox, and typhoid fever. The symptoms

assume a typhoid (depressed) character, the termination being usually fatal.

Phlegmonous Pharyngitis is the variety in which is present an accumulation of pus in the submucous and deeper tissues of the pharynx, constituting a retro-pharyngeal abscess. This variety of pharyngitis may follow the penetration of a sharp piece of bone or be secondary to caries of the cervical vertebrae.

Fibrinous Pharyngitis; or, as it is sometimes termed, pseudo-membranous, is considered with croup and diphtheria, of which it constitutes a part.

DIAGNOSIS. On account of the great swelling of the tonsils, it may be mistaken for acute tonsillitis; but the mild inflammatory symptoms should prevent the error. Cases with membranous deposits upon the tonsils, soft palate and pharynx, are no doubt often misnamed diphtheria: the marked difference in the constitutional symptoms should prevent the error.

PROGNOSIS. Favorable, the affection terminating in three or four days by the raising of a quantity of thick, opaque mucus.

THE TREATMENT.

The jugulars are compressed. Venous blood is in the small pharyngeal veins, the lymph is locked in the channels, decomposition has taken place; changes are going on all the time as a consequence. The thorough neck treatment as directed for the other forms of catarrh is the course to pursue in this affection to cure it. Take off the pressure. These treatments should be made frequently at the start, endeavoring to abort the consequences; the time between treatments to be governed by the circumstances attending each individual case. It is a strange matter with those unacquainted with this system of treatment, that such malignancies as are witnessed in throat affections yield so quickly to this treatment properly applied. Every form of malignancy succumbs to freeing the engorgement. This is far better than the process of "rotting out" the tissues, resulting in blood-poisoning.

In acute cases the treatment should be very mild, and the movements should not be too deep at the start. The gradual removal of the pressure can be done more satisfactorily than with much force at the start. The amelioration will be witnessed as the pressure is taken off; and the patient will begin to show signs of relief at once as the process continues. These treatments should be repeated according to the emergencies of the case. This is the only rational means of cure.

ACUTE TONSILLITIS.

SYNONYMS. Amygdalitis; quinsy; phlegmonous pharyngitis.

DEFINITION. An acute parenchymatous inflammation of one or both tonsils, with a strong tendency toward suppuration; characterized by moderate fever, pain in the throat, a constant desire to relieve the throat, painful and difficult deglutition, impeded respiration, and more or less muffling of the voice.

CAUSES. Generally attributed to exposure to cold, but, in the majority of cases, the exposure is so slight that there must be a predisposition to the affection; for persons once affected are particularly prone to repeated attacks upon the slightest exposure.

PATHOLOGICAL ANATOMY. One or both tonsils will be seen, on inspection, to project from its bed, as a rounded, deep red body, which may even extend beyond the median line, when they may entirely occlude the isthmus of the fauces; the half arches and posterior border of the soft palate are reddened and somewhat swollen. The surface of the tonsils is often covered with small, yellowish points, which closely resemble patches of false membrane, but careful inspection will show that they are beneath the mucous membrane, being only the distended follicles of the gland. The mucous membrane of the fauces and pharynx is more or less red and swollen.

SYMPTOMS. Onset more or less sudden, with rigors, rise in temperature, 102 degrees to 104 degrees F., full, frequent pulse, 100 to 120, headache, thirst, pain, and swelling at the angle of the jaw, with a constant desire to clear the throat, difficult and painful deglutition, from the enlarged tonsils, almost closing the fauces, when the respiration is more or less impeded; the voice is more or less muffled, and attempts at phonation increase the pain. Darting pains along the Eustachian tubes are of frequent occurrence, the patient complaining of earache and more or less deafness.

If suppuration be imminent, the throat becomes more painful, the character of the pain throbbing, the febrile phenomena increase, with more or less depression, the symptoms seeming to be of great danger, when suddenly, after an effort at vomiting, or spontaneously, the tonsillar abscess bursts, a quantity of pus escapes from the mouth, and prompt relief follows.

DURATION. The disease lasts from three to seven days, terminating either by suppuration or the gradual resolution of the enlarged glands.

DIAGNOSIS. Tonsillitis can hardly be mistaken for any other affection if the fauces are inspected.

PROGNOSIS. In the majority of cases the result is favorable, it very rarely proving fatal, except in children, and only then by obstructing the respiration, and, at the same time, so seriously interfering with nutrition that the child's strength fails.

THE TREATMENT.

The general treatment of the neck muscles should be made, as directed elsewhere. The sides of the neck and under angles of the lower jaw should receive emphasis in treatment, and the manipulation directly on the tonsil, using one or more fingers in the mouth, against the tonsil involved, and the other hand or fingers should be used as a stay from the other side, outside of throat. Persist for several moments in that way, and aim to press the blood out of it into the natural channels (to the veins) after the veins have been freed under the clavicles and in the neck muscles. The exercise of proper judgment in this treatment should reduce these excrescences rapidly, radically. Establish a free circulation in the various channels involved, and a cure is effected. The vaso-motor area deserves attention in all cases where there is fever, and this is the case in the acute form. Take off the pressure, and nature does the rest.

DISEASES OF THE LARYNX.

ACUTE CATARRHAL LARYNGITIS.

SYNONYMS. Catarrhal laryngitis; "sore throat."

DEFINITION. An acute catarrhal inflammation of the mucous membrane of the larynx; characterized by feverishness, diminished or suppressed voice, painful deglutition, and more or less difficulty of respiration.

CAUSES. Atmospheric changes; cold draughts of air, whether directly inspired or exposure of parts or all of the body to the same. Cold, wet feet; inhalation of irritating vapors, such as gas, smoke, or ammonia; inhalation of dust. Prolonged efforts at public speaking or singing, or the same efforts under difficulties. In children, from violent fits of coughing.

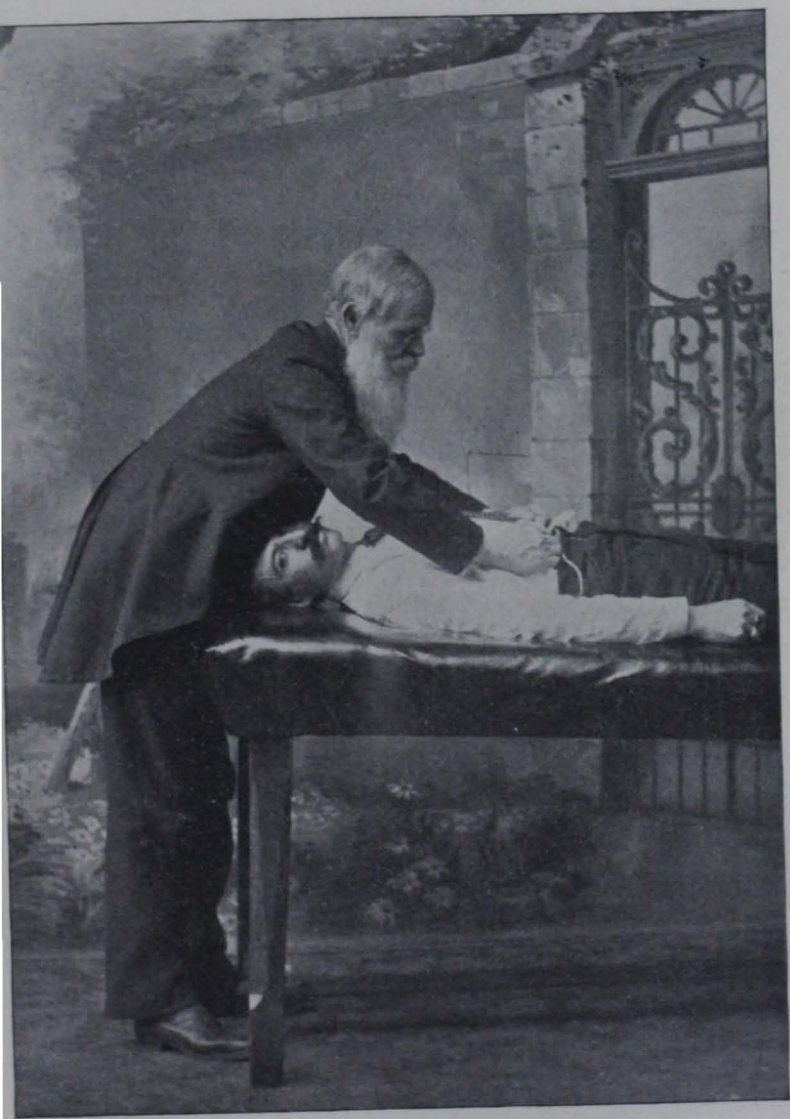
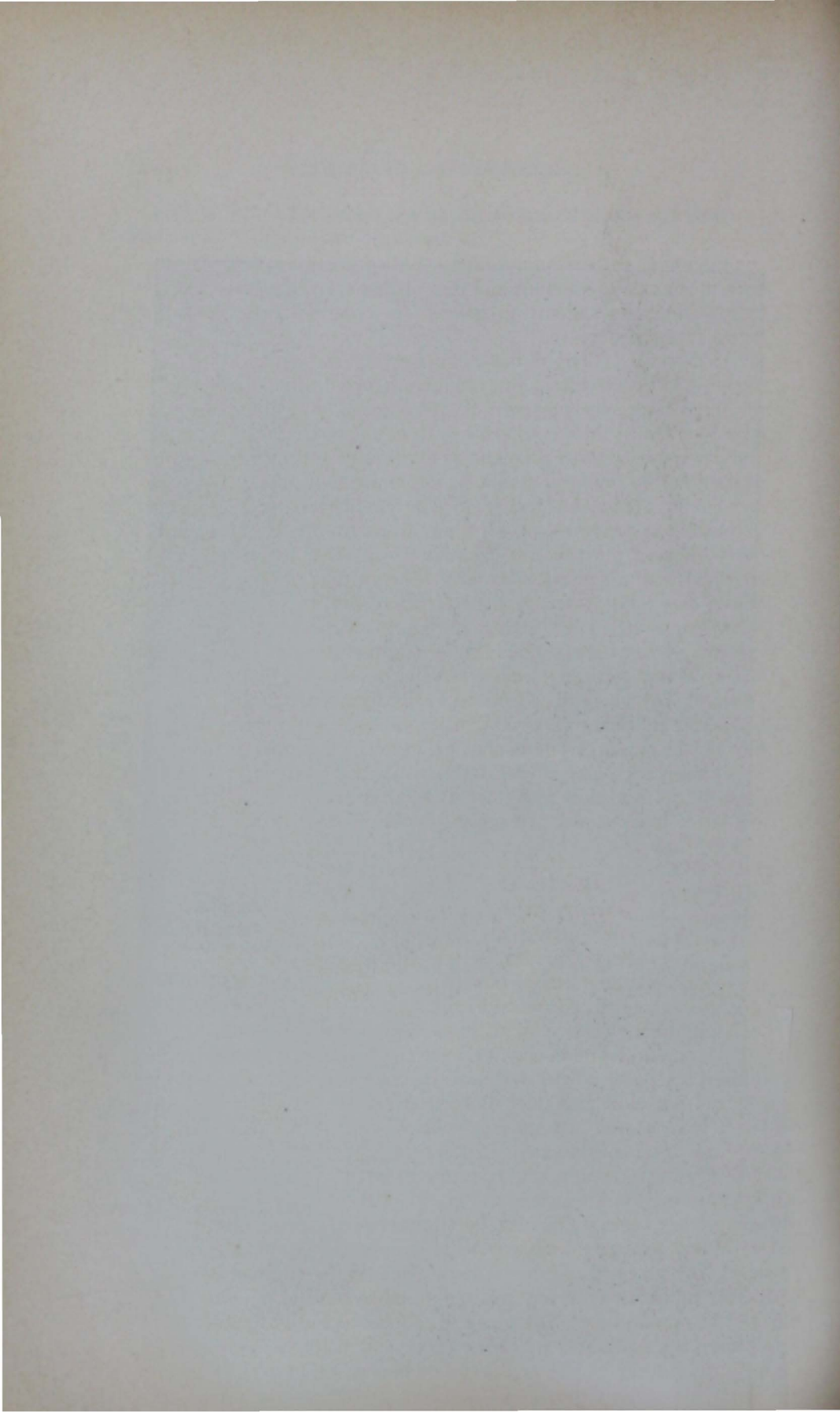


PLATE XXXII.—Manner of Expanding Diaphragm.



PATHOLOGICAL ANATOMY. In mild cases there is a transient congestion (hyperaemia) of the mucous membrane over the entire, but more commonly circumscribed portions of the larynx, with more or less swelling and diminished secretion; the mucous membrane soon returns to its normal condition, the secretion being slightly increased.

SYMPTOMS. The attack begins rather suddenly with a feeling of dryness, rawness, and tickling, referred to the larynx with the sensation of the presence of a foreign body in the throat, and with hoarseness and a disposition to cough. Deglutition causes pain by the upward movement of the larynx and by the pressure of the food on the larynx as it passes along the gullet. Attempts at speaking are attended with more or less distress, and the larynx is tender on pressure. Coughing, from the onset, of a noisy, harsh, hoarse, or toneless character, and the act of coughing attended with a sensation of scratching in the larynx. The first day or two there is scanty expectoration, but in a short time the secretion is increased, giving the cough a loose character. In the early stages the sputa may be slightly streaked with blood. Rarely a hemorrhage occurs from the mucous membrane of the larynx. The voice is at first decidedly hoarse, soon followed by complete aphonia. The respiration is but slightly, if at all, affected in adults. There may be more or less febrile reaction. In children the onset is with fever, white coated tongue, frequent tense pulse, hot skin and flushed face, embarrassed respiration, the voice hoarse and whispering, with harsh, ringing, croupy cough, and great restlessness. During the night the child is subject to suffocative attacks (*laryngismus stridulus*).

Laryngoscopic Appearances.—These vary with the severity of the attack and the stage of the inspection. In mild cases, at an early period, the mucous membrane presents a bright red appearance. Severe cases present, in addition to the bright redness, the mucous membrane swollen, to such an extent at times as to conceal the vocal cords, they appearing only as slender threads of a reddish tint. At times the mucous membrane presents the appearance of erosions or ulcerations, due to a desquamation of the epithelium.

DURATION. Usually about one week; if very severe, two or three weeks may elapse before the larynx returns to its former condition.

PROGNOSIS. Simple catarrhal laryngitis never terminates fatally.

THE TREATMENT.

When it is remembered that "heat expands and cold contracts," we can understand why pathological conditions of this sort exist. The pent-up venous blood decomposes, degenerative tissue metamorphosis takes place, and the difficulty increases until the surrounding structures become involved. The pressure upon the veins on account of muscular contraction closes the outlet, hence all of the fluids that are wont to go into the veins remain stationary, chemical changes occur, and inflammation ensues as a consequence. Nothing has yet been discovered in other systems of treatment but to give medicines and await results, which are more or less uncertain, ineffectual, and the tissue involved continues to break down, and all of the evils enumerated are the consequence. If the pressure is kept off, and removed when on the jugulars, so that an outlet is constantly present, normal conditions are restored or kept up. When it is known that our manipulations are all effectual in producing these results, the prejudice now existing will vanish like frost before a warm sun's rays. Intelligence along these lines is much needed. Results demonstrate the truths attempted to be demonstrated, and as the scales are gradually removed from the perceptive of the physical healers, the philosophy will stand out in its lucidity as clear as the noon-day sun on a cloudless day. The treatment of throat affections, then, consists in removing the obstructions. These are in the veins, due to muscular contracture. Overcome the contracture, then the fluids pursue their normal course, and all is soon righted.

It will be seen that the means of taking off the pressure are scientifically appropriate. Begin by first stretching the muscles of the neck. This has a direct influence in producing peristalsis of all of the closed-up channels therein, whether veins, lymphatics or capillaries, and it also frees communication of nerve influence. With one hand on the occiput, the other under the chin, gently extend the neck, and when the body is seen to respond, endwise, carefully turn the face to about a quarter angle in the direction the fingers of the hand under the occiput point, and use pressure on the sides of the cervicals for a moment; then change hands and repeat the process on the other side of the neck. Then the angles of the jaws should be manipulated, the ears treated as directed elsewhere, the temples, forehead, nose, eyes; then give due attention to the movement of all of the muscles of the throat, according to the general directions, paying especial attention to

the relaxation of contracted muscular fibers. Raise the clavicles so as to remove pressure from the jugulars; raise and expand the ribs and chest muscles, having the patient take deep, full inhalations as each move is directed to this end. The arms become the levers and the fingers the fulcrum, and the body the weight to be moved, to effect the freedom of circulation, and the waste material moves on in normal channels and reaches its destination (the heart and lungs), and, converted into healthy arterial blood, is sent back to again renew healthful structure, where needed.

ŒDEMATOUS LARYNGITIS.

SYNONYM. Œdema of the glottis.

DEFINITION. An acute inflammation of the mucous membrane of the larynx and that about the glottis, with an infiltration of the areolar tissues by a serous, sero-purulent, or purulent fluid; characterized by obstructed or stridulous breathing and dysphonia or aphonia.

CAUSES. The result of acute laryngitis; abscess in or about the throat or tonsils; erysipelas of the face; scarlatina; smallpox; Bright's disease; syphilis of the larynx. Rare in children.

PATHOLOGICAL ANATOMY. Infiltration into the loose connective tissue of the ary-epiglottic folds, the glosso-epiglottic ligament, the base of the epiglottis, and the inter-arytenoid space. If the true vocal cords are inflamed, their color changes, and instead of appearing white, glistening, and brilliant, they are dull, grayish-red, or violet-red in patches. If the swelling be the result of purulent infiltration, the parts affected present a deeply congested color, with here and there spots of a yellowish hue.

Serous infiltration, sufficient to cause fatal oedema, disappears with death, leaving but slight traces to account for the formidable symptoms.

SYMPTOMS. The onset is much the same as a simple catarrhal laryngitis, with a gradually increasing impediment to the respiration. The patient experiences the sensation of a foreign body in the throat, and after a short time a difficulty of breathing, which ultimately threatens suffocation. The deglutition is rendered difficult owing to the swelling of the epiglottis; the voice, at first muffled, gradually becomes weaker and weaker, until finally it is almost extinct; the cough at first is dry and harsh, but as the infiltration increases it becomes stridulous and suppressed;

there is no expectoration, except that after great effort to clear the throat a little frothy mucus is raised. The difficulty of respiration, as the disease progresses, becomes greater and greater, and the paroxysms of impending suffocation more frequent. The inspiration is accompanied by a whistling sound characteristic of the narrow condition of the glottis, the patient sits up in bed, his mouth open, gasping for breath, his eyes protruding, the whole body trembling with intense convulsive movements, and after a time a general cyanosis commences, the face assuming a bluish hue, all these symptoms continuing for a few moments, when slight relief occurs, to be again followed by another paroxysm, in one of which, if nature or art does not afford prompt relief, death occurs from asphyxia. A physical examination of the parts may be made by gently pressing the finger into the throat, when the epiglottis may be felt very much thickened, and the ary-epiglottic folds may have attained such tumefaction as to convey to the finger an impression similar to that which is given by touching the tonsils.

Laryngoscopic Appearance.—The mucous membrane has a bright red appearance. The epiglottis has the appearance of a semi-transparent roll-like body, or it is often merely erect and tense. It is this condition of the epiglottis which explains the pain and difficulty in deglutition. Rarely the vocal cords are infiltrated.

DIAGNOSIS. Any disease which gives rise to dyspnoea may simulate oedematous laryngitis, but the history of the case, together with a laryngoscopic examination, will generally furnish conclusive evidence as to the real nature of the malady.

PROGNOSIS. As a rule, unfavorable. If early and vigorous treatment be instituted, recovery is possible, but without it death is the inevitable result, the patient dying asphyxiated. Even when local measures have removed the obstruction to free respiration, the patient is very likely to perish subsequently from exhaustion, or blood poisoning, or from pneumonia or other lung complication. The duration of infiltration of the larynx varies from a few hours to several days.

THE TREATMENT.

To relieve this affection, nothing succeeds like the manipulations recommended for Acute Laryngeal Catarrhal Inflammation. The same difficulty exists. The treatment should be made thoroughly, carefully, and the sittings should be repeated frequently.

Whenever there is disease anywhere in the system, it becomes amenable to this treatment, provided the pressure can be taken off; and this means everything in dealing with all pathological conditions, and the thing for the physician to do, in any case, is to apply scientific, effectual means to do so. Results are almost universally satisfactory. The treatment for sore throats, regardless of the name or character, can not be surpassed in satisfactory efficacy, whether a simple ulcer or a malignant desquamation or diphtheritic in character. The restoration of normal circulation always means relief, and in the majority of cases a positive cure. The prognosis of most cases of pathological conditions in this book is given from a medical standpoint, and the superiority of this treatment over the medical, will be apparent as the proper application of Osteopathy is made. The treatment should be made with discretion as to a particular routine course, the operator considering whether the trouble is local, general or specific. Neutralization of poisons must not be lost sight of, especially when introduced into the system from contact or infectious virus; but where poisons generate in the system as a result of decomposition of blood stasis, the remedy is to remove the obstruction.

SPASMODIC LARYNGITIS.

SYNONYMS. Spasmodic croup; false croup; catarrhal croup; child crowing.

DEFINITION. A catarrhal inflammation of the mucous membrane of the larynx, associated with temporary spasmodic contraction of the glottis; characterized by paroxysmal coughing, difficulty of breathing, and attacks of threatening suffocation.

CAUSES. Atmospherical changes or "taking cold"; excesses in eating and drinking; excitement; violent emotion, are all given as causes for simple croup.

PATHOLOGICAL ANATOMY. Congestion of the mucous membrane of the larynx, with slight swelling and deficient secretion, are the only changes that have thus far been noted.

SYMPTOMS. The attack occurs chiefly during the night, the child on retiring having either its usual health, or perhaps being a little feverish. After several hours of sleep the child is suddenly awakened by a paroxysm of suffocation, and a dry, harsh, ringing cough. After half an hour or an hour or two the breathing becomes easier, the cough less "croupy," the skin is covered

with more or less perspiration, and the child falls asleep. The next day there is present a cough of a loose character, the respiration being about normal. If no treatment be instituted, the same phenomena occur on the second night, the child being apparently well during the second day, the cough being less in amount; phenomena of a similar character, but of much less severity, are present the third night, after which the disease usually disappears. If the symptoms of the first paroxysm continue pronounced for two or three days, there is a strong probability that the inflammation may become fibrinous in character, or that true croup may develop.

DIAGNOSIS. The symptoms are so characteristic that it seems impossible for the affection to be mistaken for any other disease.

PROGNOSIS. Spasmodic or simple croup always terminates favorably.

THE TREATMENT.

There is no one affection that so completely demonstrates the principles of this science as its application to spasmodic laryngitis. Pressure producing impediment, which results in congestion of blood and other fluids in the larynx. The contracture of the muscular fibers interfere with the nerve terminals and capillary congestion results. The treatment proper, in this affection, relieves all trouble in a few moments. Simply the usual neck treatment is sufficient. Let the blood pursue its uninterrupted course, and we have no croup. The various remedies recommended by practitioners are not needed in this affection. The most reasonable thing to do outside of Osteopathy is to apply a cold, wet compress. That acts mechanically—squeezes the capillary blood vessels, and the fluids therein are permitted to flow onward. The lymphatics are emptied—the pressure is removed thereby—so a cure results almost immediately. The manipulation of the muscles of the neck and raising the clavicles do the work effectually in a few moments.

CROUPOUS LARYNGITIS.

SYNONYMS. Membranous croup; true croup.

DEFINITION. An acute inflammation of the mucous membrane of the larynx, attended with the exudation of a tough secretion—the false membrane—and the occurrence of spasm of the

glottis; characterized by febrile reaction, frequent ringing cough, dyspnoea, with loud inspiratory sound, and altered or extinct voice, showing a strong tendency toward death by asphyxia.

CAUSES. A disease of childhood, most common in strong, vigorous, well-nourished males. Certain families present a strong hereditary tendency. Most common during a humid winter.

PATHOLOGICAL ANATOMY. Intense hyperaemia of the mucous membrane of the larynx, associated with swelling, oedema, and marked redness. There soon appears on the surface of the mucous membrane a grayish pellicle, rapidly coalescing and becoming thicker—the opaque, false membrane—which differs in extent, thickness, and adhesiveness in different portions of the larynx. In all cases the false membrane is found on the vocal cords and inner surface of the epiglottis. The first exudation (membrane) softens by the serum which is exuded, and is then mechanically dislodged by acts of coughing or vomiting, but is followed by successive deposits upon the mucous membrane. When the false membrane is detached the mucous membrane of the larynx is found unaffected, so far as the loss of structure is concerned. Several successive crops of membrane may occur after the detachment, or it may entirely cease to form after the removal of the first exudation.

On microscopical examination the false membrane is found to be composed of a fine network of fibrillae, holding in their interstices leucocytes of an albuminous or fibrinous nature. The false membrane may extend into the pharynx, but especially is it liable to extend into the trachea and bronchial tubes, and, as the inflammation extends downward, the character of the exudation changes from fibrinous to muco-purulent.

SYMPTOMS. The onset of "true croup" is either sudden, by an attack of spasmodic croup, or it is gradual, as an acute catarrh of the larynx, rapidly increasing in severity, with a feeling of heat in the throat, huskiness of the voice, harsh cough, fever, and thirst, the hoarseness soon becoming marked, and the cough having a metallic, "croupy" character, rapidly changing to a stridulous, husky sound; every few minutes the child takes a sudden, deep, stridulous inspiration, the voice becoming more and more husky. Difficulty of breathing now follows, the child is unable to lie down, or if, exhausted by the efforts at inspiration, it is quiet for a moment, it soon starts up in fright, breathing more heavily, with a shrill, whistling inspiration. Soon, from the narrowing of the glottis, from the presence of the membrane, the

expiration becomes difficult and noisy, and suffocation seems imminent from the paroxysmal attacks of spasm of the glottis, the child tosses wildly about, tears at its throat, as if to remove some obstacle, the face becoming cyanosed, the alae of the nose working rapidly, the mouth wide open, the inspiratory efforts gasping, the body covered with a profuse sweat, and death seems imminent, when suddenly the spasm is relaxed, air enters the chest, the breathing becomes somewhat easier, and the child, exhausted and partially stupefied, drops into a fitful sleep of a few moments' duration.

The suffocative attacks return at short intervals, or there occur decided remissions between them, considerable portions of the false membrane being expelled, allowing the child to fall into a refreshing sleep.

In those cases which tend to a favorable termination, the appearance of improvement noted between the suffocative attacks is maintained, the paroxysms of suffocation becoming less frequent, expectoration of membrane more marked, the difficulty of breathing lessens, the cough loosening, the voice gradually returning, the fever, which has been more or less high during the attack, disappearing.

If instead of improvement, the case tends toward a fatal termination, the suffocative attacks become more frequent, expectoration is absent, the voice and cough inaudible, although the efforts at speaking and coughing are visible, the difficulty of breathing continues, the respirations becoming more frequent and shallow, but without whistling and stridor, cyanosis deepens, the countenance has an indifferent, drowsy, and stupid look, the eyes dull and nearly closed, with symptoms of depression, the pulse rapid and weak, the surface covered with a cold, clammy sweat, the extremities cold, stupor and insensibility more marked, the child dying of carbonic acid poisoning or asphyxia.

DURATION. The duration of true croup is about one week, rarely continuing ten days.

DIAGNOSIS. Œdema of the glottis might be mistaken for croup until the period of the formation of the characteristic membrane. The chief points of distinction from the onset are, however, absence of fever, paroxysmal attacks of difficult respiration, followed by a complete return to the normal condition. Œdema of the glottis is rare in childhood.

PLATE XXXIII.—Showing Manner of Liver Treatment.



The following are the chief points of difference between croup and laryngeal diphtheria:

CROUP.

A local disease.
 Begins in trachea and extends up.
 Exudation never cutaneous.
 No pain in swallowing.
 No swelling in submaxillary and lymphatic glands.
 Cough always present and often reduced to a mere whistle with a peculiar metallic ring.
 Not traceable to bad drainage.
 Seldom occurs in adults.
 Neither contagious nor infectious.

A sthenic disease.
 Membrane does not extend to nares.

No symptoms of septicaemia.
 No albuminuria.
 Neither attended with nor followed by paralysis.
 Death seldom caused by syncope.
 Death due to suffocation.

Absence of a specific germ.

DIPHTHERIA.

A constitutional disease.
 Begins at tonsils and extends down,
 Exudation often cutaneous.
 Often severe pain in swallowing.
 Swelling in submaxillary and lymphatic glands.
 Seldom much cough, and then only hoarse.

Often traceable to bad drainage.
 Often occurs in adults.
 Both contagious and infectious, both before and after death.

An asthenic disease.
 Often extends to nares and many other parts.
 Septicaemia generally present.
 Albuminuria frequent.
 Paralysis not uncommon.

Death from syncope common.
 Death frequently results from other causes.

Presence of the Klebs-Loeffler bacillus.

PROGNOSIS. A very fatal disease. The danger increases in proportion to the age and feebleness of the child.

Unfavorable symptoms are: Loud, stridulous inspiratory and expiratory sounds, laborious and prolonged expiration, depression of the base of the thorax during inspiration, whispering voice or complete aphonia, congestion of the face and neck, stupor, weak, rapid, and irregular pulse, cold extremities, and a cold, clammy perspiration.

Favorable symptoms are: Expectoration of false membrane, decrease of the stridulous respiration, voice changing from whispering to hoarseness, looseness of the cough, moderation of the fever, and an improvement in the general condition.

THE TREATMENT.

A thorough general treatment of the neck is first to be instituted, so as to take off all the pressure in consequence of muscular contraction. To take off the pressure is essential. The exudation that is filling up the trachea is due to venous obstruction in the mucous membrane. This obstruction is primarily in the large veins that empty their contents (or should) into the jugulars. The clavicles should receive our attention early in the

manipulatory process. Take off the pressure at the inner ends of the clavicles—let the channel be clear here; then manipulate all of the muscles of the neck, gently stretch the neck; use stimulation with the fingers on the vaso-motor area, free the muscles on the sides and front of the neck, and especially close up under the lower jaw, as shown elsewhere in plates. The mucous membrane of the mouth and throat should be treated with the finger of the operator, and by a few moments' persistency in the treatment the false membrane is loosened, and easily withdrawn. After it is removed, the patient becomes easy at once, and the treatment, gently applied, should be made every few hours until all of the inflammatory process ceases. The clavicles will be found too low, hence attention to them should receive due notice. Raise the chest and ribs and muscles strongly, having the patient take a deep inspiration, if possible, each time the arm is raised, and the pressure made down the sides of vertebrae, as low as the eighth dorsal vertebra. Vibratory manipulations should be made with the hand applied to either side of the neck and over the trachea, which loosens the false membrane in a short time. Both arms should be strongly extended above the head, and while the fingers are pressing on either side of the spinous processes of the lower cervical and upper dorsal vertebrae, the arms are to be gently pressed downward and backward, patient either in a recumbent or sitting posture. The object of this move is to expand the chest, exhale carbonic oxide and receive oxygen, and relieve the venous congestion of the intercostals and the *venae azygos major* and *minor*. The vibratory movements on the neck and bronchi for two to five minutes aid in disseminating the capillary congestion, the lymphatic secretion, and stimulating the terminal nerve filaments and relieving the pressure. These treatments are to be repeated at intervals of four to six hours until recovery takes place.

It is better for the patient not to eat anything until the tongue clears off and the throat is restored, and a natural appetite returns. The salivary glands can not secrete the normal secretion essential to mixture with the food, to promote digestion. Then why tax the system unnecessarily? It is better not to feed the patient for the reasons given.

Allow me to call attention right here to the fact that strong vibration upward and outward over the upper end of the sternum affords relief, in that it empties the thymus gland, which will be found engorged in all cases of croup, diphtheria, scarlet fever and

throat diseases, in persons under twelve years of age. Atmospheric and telluric changes affect this gland. The east wind influences this gland as well as yeast, deleteriously—congesting the gland, and so affecting the yeast that it won't rise while the wind is in that quarter.

LARYNGISMUS STRIDULUS.

SYNONYMS. Spasm of the glottis; pseudo-croup; Millar's asthma; thymic asthma; "Kopp's asthma"; tetany.

DEFINITION. A spasm of the muscles of the larynx innervated by the inferior or recurrent laryngeal nerves; characterized by a sudden development of dyspnoea and the appearance of deficient oxygenation of the blood. MacKenzie describes it as "a form of convulsion occurring in ill-nourished infants, characterized by spasmodic action of the abductors of the vocal cords, and in severe cases by spasm of the diaphragm and intercostal muscles."

CAUSES. Most common in children, the result of teething, laryngitis, indigestion, scrofula, or other cachexiae. Attacks in adults are not uncommon. It is often hereditary.

PATHOLOGICAL ANATOMY. Death the result of spasm of the glottis is such a very rare occurrence that the changes in the larynx are illy understood. The mechanism consists in an irritation of the superior laryngeal nerve—the afferent nerve—whose function it is to supply the mucous lining of the larynx with sensibility, whence is reflected through the inferior laryngeal nerve—the efferent nerve—the motor influence resulting in the spasm of laryngeal muscles.

SYMPTOMS. The spasms of the laryngeal muscles is of sudden onset, and usually after nightfall. The child may have been in perfect health, to all appearances, on retiring, or it may have shown symptoms of catarrh of the upper air passages, or been suffering from gastro-intestinal or dental irritation. The child awakes suddenly, coughing in a metallic, resonant tone—the croupy cough—and with great dyspnoea, with loud, crowing, stridulous inspirations, the result of narrowing of the larynx from spasm, with wheezy, stridulous expirations. The entrance of air is so greatly obstructed that all the accessory muscles of respiration are called into use; the lips and finger nails become blue, the surface cold, the countenance anxious, and the inferior portion of

the chest is drawn in, instead of being expanded, during inspiration. General convulsions occur at times, during a paroxysm, also strabismus, and involuntary discharge of the faeces and the urine. The paroxysm continues from half an hour to an hour or more, to return after a few hours' sleep or during the following night; the cough, during the day, having the croupy character.

DIAGNOSIS. The non-febrile and distinctly intermittent nature of the affection differentiates it from croup, and its own distinctive characters, from all other diseases. The view is gaining that it is a variety of tetany.

PROGNOSIS. Favorable. Death from suffocation during the paroxysm may occur in very young children, but it is certainly a very rare termination.

THE TREATMENT.

The indications are plain. The back of the neck demands our first attention, then the vaso-motor nerve area, to regulate the heart's action and the sides of the neck and clavicles, to relieve the phrenic nerve. This, with freedom of the chest muscles and stretching the arms over the head, and treating down the spine and overcoming nerve pressure at the lower outlets of the body, together with repeated general treatment, assures prompt relief. The recurrent laryngeal filaments, together with the spinal accessory nerves, do much to relieve immediate paroxysm and prevent its recurrence.

TUBERCULOUS LARYNGITIS.

SYNONYMS. Laryngeal phthisis; throat consumption.

DEFINITION. An inflammation, tending to ulceration, of the tissues of the larynx, of tuberculous origin; characterized by pain on deglutition, cough, weakness of voice, and progressive emaciation, associated with hectic fever.

CAUSES. An infection of the larynx with the bacillus tuberculosis, either from the inspired air or by the sputum. A depressed state of the system is essential for the action of the bacilli.

PATHOLOGICAL ANATOMY. It is well to remember that all chronic inflammations of the larynx associated with pulmonary tuberculosis are not tubercular. Begins with redness of the mucous membrane, showing scattered tubercles. The tubercles

show a strong tendency to cluster, then soften, leaving shallow, irregular ulcers. The ulcers are covered with a grayish exudate. The mucous tissue round about the ulcers is thickened. The ulcers may, and generally do, erode the true vocal cords, often entirely destroying them. The ulcers slowly extend in all directions, destroying the tissues attacked. The epiglottis may be entirely destroyed.

SYMPTOMS. Usually develops secondary to pulmonary symptoms; rarely it may occur as a primary disease, to be followed with tuberculosis of the lungs. The first symptom is a change in the voice—huskiness; this, associated with symptoms of ill health, is always a warning to the physician. The husky voice may proceed until it is but a painful whisper. Cough of an irritating, painful character, associated with slight expectoration. Painful and difficult deglutition (dysphagia) is a very constant and distressing symptom. There is the remitting fever so characteristic of tuberculosis, with night sweats, loss of appetite, loss of flesh, and insomnia.

Laryngoscopic examination reveals the characteristic broad, shallow, irregular, grayish ulcers, with the thickened surrounding mucous membrane. The vocal cords show infiltration and thickening or ulceration.

DIAGNOSIS. To discriminate from non-tubercular laryngitis, examine the sputum, and if the specific bacilli are found, the diagnosis is conclusive.

PROGNOSIS. Unfavorable, so considered.

THE TREATMENT.

Although the medicine administrators prognose this disease unfavorable, there is much that may be done to ameliorate the sufferings of the patient, and many times effect a permanent cure. The impediments in and to the circulation of the blood, the interference in respiration (a process essential to the purification of the blood) and in the throat and chest muscles, can be removed, and the congestion relieved in the mucous membrane. General dyscrasia due to and resulting from a tuberculous diathesis, demands perfect freedom of the capillary circulation everywhere, and at all times, to prevent retrograde tissue metamorphosis, and this goes farther to destroy the "bacilli tuberculosis," than all the Tuberculin ever introduced. Many cases, pronounced tuberculous, properly treated osteopathically, would result in immunity from that dread disease that now slays its millions.

The more this method is studied, the stronger will its influ-

ence be felt and the more appreciated by every one. While nothing but the "crack of doom" will arouse some from their profound slumbers, there will eventually be such a mighty avalanche of testimony presented that belief will be the result. There is a philosophy in this method that seems to be irresistibly impressive to rational minds.

Special attention should be given to the removal of the pressure in the muscles of the neck. The throat should be thoroughly manipulated and the clavicles raised, the arms used as levers to liberate all "chest contraction," giving room for the lungs to expand—full, deep inspirations enjoined several times each day; vibratory manipulations along the carotid sheath, stimulating the cervical and spinal nerves, removing all irritations from the sphincter muscles; moderate out-door exercise, due regard to cleanliness of the body, frequent sun-baths; sleep in airy apartments and let all worry and fretting be abandoned. Live on that sort of food that will assimilate, eat slowly and thoroughly masticate all food, and give the stomach a rest from eating one meal, preferably breakfast, and with a general Osteopathic, mild treatment, two or three times a week, great comfort may be expected, and many a case saved from a premature funeral. If the uvula is elongated, have it clipped off, so as to remove that source of pharyngeal irritation. Aim to include in the clipping of the uvula a small portion of the muscle, then the elongation will not recur any more. This is essential, to insure relief from further irritation. Many are excised without this precaution, and no good results. Remember this.

DISEASES OF BRONCHIAL TUBES.

ACUTE BRONCHITIS.

SYNONYMS. Bronchial catarrh; acute bronchial catarrh; "cold on the chest."

DEFINITION. An acute catarrhal inflammation of the bronchial tubes of the larger, middle, and third size; characterized by fever, sub-sternal pain, a feeling of thoracic constriction, oppression in breathing, and at first scanty, followed by more or less profuse expectoration.

CAUSES. Most frequent in childhood, especially during the period of dentition, when there exists a strong tendency to catarrh of the mucous membranes in general and of the bronchi in particular. In old age the predisposition again returns. Inhalations of irritants, such as dust, smoke, and air too hot or too cold. More common in climates characterized by considerable moisture of the atmosphere combined with a low temperature, and especially where there are sudden and marked variations.

PATHOLOGICAL ANATOMY. Hyperaemia of the mucous membrane of the bronchial tubes, manifested by a diffused redness, swelling, oedema, and diminished secretion; this is followed by an increased secretion and overgrowth and desquamation of the epithelial cells, together with a copious generation of young cells, the expectoration then becoming of a yellowish color (muco-purulent). As a result of the hyperaemia, rupture of the capillaries of the mucous membrane frequently occurs, when the slight expectoration of the first stage is streaked with blood.

In cases of bronchitis following the exanthemata, or in scrofulous patients, the bronchial glands participate in the inflammation, they becoming hyperaemic, swollen, and filled with secretion, and not infrequently the glandular elements undergo a hyperplasia, and finally the "cheesy" degeneration.

SYMPTOMS. The invasion is usually characterized by the occurrence of either nasal or laryngeal catarrh, or both, the patient feeling chilly, followed by flushes of heat, the limbs, joints, and even the body, are affected with pain of an aching, contused character, and with a sense of fatigue and want of energy; there may be a furred tongue, anorexia, and constipation. In nervous, irritable persons, and in children, there may be slight delirium, and often in very young children, especially during the period of dentition, convulsions may usher in an attack. After a day or two of these initiatory symptoms, those characteristic of bronchial catarrh develop. Pain is experienced beneath the sternum, especially toward its upper part, of a raw, burning, or tearing character, aggravated by a deep inspiration or by coughing; the pain also radiates toward the sides, following the course of the primary bronchial tubes. Tenderness over the sternum is often experienced. Cough from the onset, at first in paroxysms of a hard, dry character, changing as the disease progresses, and becoming looser, followed by free expectoration. The expectoration at first is small in quantity, almost transparent, frothy, and

having a salty taste, often streaked with blood. As the disease progresses, it becomes more abundant, of a yellowish or a greenish-yellow color, and of a tenacious consistency. There are present slight fever, hot, dry skin, frequent pulse, loss of appetite, moderate thirst, and constipation. A feeling of languor and weariness, and often considerable depression, quite out of proportion to the febrile state, are not infrequent.

PERCUSSION. Normal, except in those rare cases in which the bronchial glands are involved, when irregular spots of dullness can be developed.

AUSCULTATION. First stage: The bronchial membrane being swollen and dry, the respiratory murmur is harsh or vesiculo-bronchial in character, associated with diffused sonorous and sibilant rales. Second stage: The secretion from the bronchial mucous membrane being increased, the respiratory murmur is less harsh in character, but is associated with large and small moist or bubbling rales.

DIAGNOSIS. The points of resemblance and difference between acute bronchitis and other diseases of the chest will be pointed out when those affections are described. The association of bronchitis with other diseases must not be forgotten.

PROGNOSIS. Acute bronchitis of the larger tubes usually terminates in complete resolution within two weeks. In children and in the aged, the course is more protracted, and the symptoms more severe, but recovery is the rule. Very aged and feeble persons may succumb, but it is rare.

THE TREATMENT.

The patient lying on the back, begin treatment by placing the fingers near together on either side of the cervical spines; pull gently and at the same time bend the neck forward, the head backward, downward, and press firmly with the ends of the fingers on the vaso-motor area, and observe to do this without pain to the patient. While the patient is thus lying on the back, place one hand at the occiput and the other under the chin, make gentle extension, and while extended, rotate the head to one side about one-fourth of the circle, then, while extended, turn the head straight; let the head rest on the table or chair, and change the hands, and repeat the same move in the same way, observing to press with the ends of the fingers on the neck just behind and below the mastoid process as the head is turned in that direction; then have the patient open the mouth as the finger on either side presses upward in the area of the ears, then vibrate in the tem-

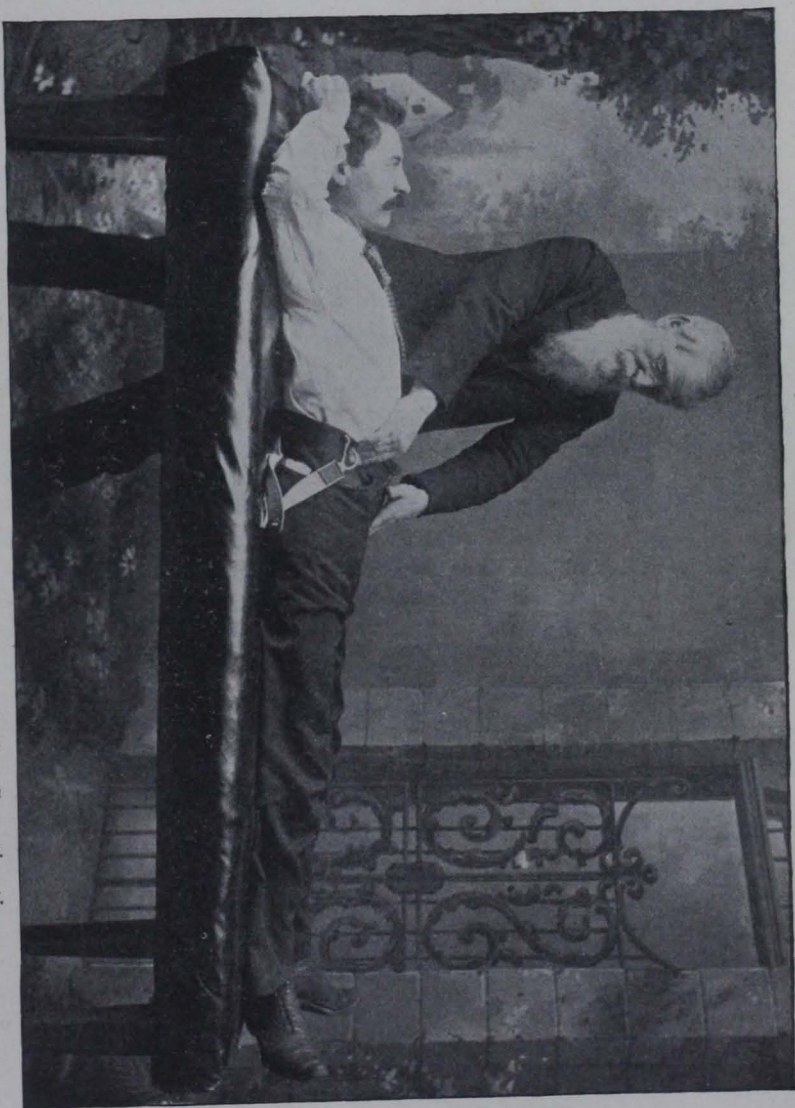


PLATE XXXIV.—Manipulation of Bowels for Constipation.

poral region, on the forehead, around the eyes, nose and face, removing all and every vestige of congestion, then dilate the nares; then manipulate the muscles of the neck thoroughly, causing the patient to inhale full inspirations as movements are made. The essential thing to do in this affection is to afford sufficient room in the chest to fully expand the lungs. The pressure of the fingers on the vaso-motor area is necessary to reduce the fever and regulate arterial blood circulation. These treatments should be very gentle, especially with children, as repetitions will be necessary in many cases, and that for some days.

CAPILLARY BRONCHITIS.

SYNONYMS. Broncho-pneumonia (?); "suffocative catarrh."

DEFINITION. An acute catarrhal inflammation of the mucous membrane of the terminal bronchial tubes, or bronchioles; characterized by fever, impeded and increased respiration, impeded circulation, slight cough and scanty expectoration, and symptoms of non-aeration of the blood.

CAUSES. Most common in childhood, following exposure to cold or sudden changes of temperature; occurs also in the aged, and also complicates measles, whooping cough, or any of the debilitating diseases.

PATHOLOGICAL ANATOMY. Hyperaemia, redness and swelling of the lining membrane of the bronchioles, with the exudation of a tough, tenacious secretion. In those cases in which the air cells are not involved in the inflammatory changes, the air passes, during the act of inspiration, through the secretion, blocking the smaller tubes, but is prevented from escaping during the act of expiration, the secretion in the smaller tubes acting as a valve; the result is distention of numerous vesicles, producing a circumscribed or diffused functional emphysema. If the secretion produces complete closure of any of the smaller tubes, the air previously drawn into the vesicles will be absorbed, causing collapse (atelectasis).

If the inflammation extends to the alveoli of the lungs, it produces the condition known as broncho-pneumonia, a frequent complication in children and feeble elderly people; it is most commonly lobular in character, whence the term "lobular pneumonia."

SYMPTOMS. Usually preceded by more or less ordinary

bronchitis, followed by rise of temperature, 102 degrees to 103 degrees F., increased pulse, difficult and increased respiration, numbering forty, fifty or sixty in the minute, with paroxysms in which the dyspnoea is markedly aggravated, when cyanosis rapidly develops; the tongue is coated, bowels costive, appetite impaired, restlessness and headache.

The circulation through the lungs is impeded by the dyspnoea, the pulse becomes feeble and flickering, and there results general congestion of the venous system, the countenance becomes livid, the lips and nails blue, the surface cold, and often covered with a clammy perspiration, the mind dull, and in children stupor and convulsions rapidly supervene, the result of the non-aeration of the blood. The cough is slight, but of a suppressed character, the expectoration scanty, the patient usually swallowing the sputum. When cyanosis occurs, the cough may almost entirely cease; expectoration also ceases, death soon following from apnoea and depression.

PERCUSSION. Normal, except over those portions of the lungs (a bilateral disease) which are in a condition of collapse, when dullness rapidly develops and may as rapidly disappear, changing to other portions of the lungs—shifting dullness.

AUSCULTATION. First stage, a feeble, but high-pitched, respiratory murmur, becomes less distinct and harsh as the disease progresses. The rales in the first stage are fine whistling, sibilant, changing in the second stage to fine bubbling or subcrepitant rales. The respiratory murmur is absent over the dull area.

DIAGNOSIS. There is one point characteristic of capillary bronchitis—it is a general or bilateral disease. Capillary bronchitis is often mistaken for true catarrhal pneumonia, the points of distinction between which will be pointed out when discussing the latter affection.

PROGNOSIS. In children, on account of their inability to expectorate, which tends to rapid collapse of the lungs, and in the aged, the prognosis is most grave. In the strong and vigorous, recovery follows prompt and energetic treatment.

THE TREATMENT.

Having a complete description of the affection, its peculiar characteristics, and a typical case before us, we ought to be able to see what to do for it. The nerves that accompany the blood vessels come from the vagi and sympathetic, and these are pressed upon by the contracted muscular fibers at the back of, and in front

of the neck. Interference in their action produces capillary stasis, an interruption of lymph circulation, and congestion of the bronchioles is the consequence. The indications are easily seen. Interference in the motor action of the walls of the alveoli, separation of the sympathetic and motor footlets, mean inactivity (for the want of communication), and blood stasis becomes inevitable. Our course to pursue in such cases is: Take off the pressure. We do this by stimulating the vaso-motor area, and the sides of the neck, raising the clavicles, chest walls, relieving the engorgement of intercostales, stretching the neck and vibrating the muscles of the neck and over the upper end of the sternum, and freeing the jugular veins, so as to let venous blood return to the lungs through the heart as fast as nature demands. The livid countenance and lips, blue nails, etc., show that circulation of the venous blood is impeded somewhere; and that is in all of the capillaries in the body—due to pressure on motor area, by muscular contraction. This seems to a medicine prescriber a strange sort of affairs; but it is nevertheless true, and our manipulations remedy the whole difficulty very readily and satisfactorily.

FIBRINOUS BRONCHITIS.

SYNONYMS. Membranous bronchitis; plastic bronchitis; diphtheritic bronchitis; croupous bronchitis.

DEFINITION. An acute inflammation of the mucous membrane of the larger and middle-sized bronchial tubes, attended with an exudation, forming a membraniform layer, which is closely adherent to the mucous surface; characterized by febrile reaction, cough, difficult breathing, scanty expectoration, followed by the expulsion of the false membrane in the form of patches or casts.

CAUSES. Pressure; associated with membranous laryngitis from extension downward; asthma; emphysema; phthisis; frequently result of exposure to cold or damp, in those of feeble health or in tuberculosis (?) constitutions.

PATHOLOGICAL ANATOMY. Hyperaemia of the mucous membrane of the bronchial tubes, associated with swelling and oedema, during which the surface is covered with a whitish or grayish-white, firmly adherent, membranous deposit, cemented together by a coagulable exudation, and prolonged by rootlets from its under surface into the bronchial follicles, which sooner

or later is loosened and detached by suppurative process, and is expectorated after a violent fit of coughing or vomiting. When expectorated, the false membrane, as it has been termed, has either the form of patches or is thrown off entire from the bronchial tube, and may be found to consist of casts representing more or less of the bronchial subdivisions, and presenting an appearance not unlike "boiled macaroni."

On microscopical examination, the detached membrane presents fibrillae which characterize fibrin or lymph in other situations, and if placed in a solution of acetic acid, it becomes greatly swollen, while ordinary mucus contracts and becomes more dense if added to the same solution.

SYMPTOMS. There are no symptoms or signs by means of which this variety of bronchitis can be distinguished from ordinary catarrhal bronchitis, prior to the expectoration of the false membrane. Expectoration is preceded and accompanied by violent paroxysms of coughing, and after more or less of the membrane has been raised a muco-purulent expectoration, streaked with blood, may be present for several days.

DURATION. The inflammation may be either acute, sub-acute, or chronic, expectoration of patches or strips of the membrane being repeated at intervals of days, weeks, months, or even years.

PROGNOSIS. In adults, favorable, if not associated with other grave affections, such as phthisis, pneumonia, emphysema. In young children it may cause obstruction to the respiration, and not unfrequently proves fatal.

THE TREATMENT.

The cause, according to Osteopathy, being pressure, resulting in capillary congestion, and that seemingly at a particular stage and in a particular tissue, the effects manifest themselves in a fibrinous exudation, a membranous deposit. The only rational indication is to take off the pressure producing the difficulty. In all throat affections there will be found a difficulty in the vasomotor area, and in the depressed condition of the clavicles, hence these demand our first attention. The former should be held for two to five minutes, to regulate the heart's action, and arteriole and capillary regularity, then a thorough and careful manipulation should be given to every organ and tissue involved, the treatment being especially directed to the relief of the large veins, then the lymphatics; the removal of the pressure from the nervous system supplying the parts affected. The chest muscles

should be fully expanded by the means used and recommended elsewhere in such cases, raising the arms, using pressure all along down the dorsal region as the arm is raised and lowered. Due attention must be paid to the throat, high up, under the lower jaw, vibrating over the glands, the sides of and front of the neck along carotid sheaths, stimulating the pneumogastric and phrenic nerves, stretching the neck in a gentle manner, and rotating the head carefully, treating the mucous membrane of the mouth and throat each time the general treatment is given, which should be at least once a day—more if the case needs it.

CHRONIC BRONCHITIS.

SYNONYMS. Chronic bronchial catarrh; winter cough; secondary bronchitis.

DEFINITION. A chronic inflammation of the mucous membrane of the larger and middle-sized bronchial tubes; characterized by cough and more or less profuse expectoration, plus, in many cases, the symptoms of emphysema of the lungs, which is a frequent complication. Chronic bronchitis may be either primary or secondary.

CAUSES. Primary, exposure to wet or cold, or the repeated inhalation of dust, vapors, or other irritants. Secondary, gout, rheumatism, syphilis, cardiac, renal, or pulmonary diseases, or alcoholism.

VARIETIES. 1. Mucous catarrh, associated with moderate expectoration. 2. Bronchorrhoea, profuse expectoration. 3. Dry catarrh, scanty expectoration. 4. Fetid bronchitis. 5. Bronchiectasis, or dilatation of the bronchi.

PATHOLOGICAL ANATOMY. The mucous membrane of the bronchial tube is discolored, being of a more or less dull red, often of a deeply venous hue, mingled with a grayish or brownish color. These changes may be either in patches or extensively diffused. The vessels of the mucous membrane are dilated. The mucous membrane is thickened, resulting in the reduction in the caliber of the tube and a roughening of its internal surface. The submucous tissue becomes infiltrated, contracted, and indurated. The elastic and muscular coats of the tubes become hypertrophied, lose their elasticity, and the cartilages become the seat of calcareous deposits. As the result of the loss of elasticity and muscular tone of the tubes they become irregularly dilated, "bronchial dilatation." The dilatations may be uniform in char-

acter, resembling somewhat the fingers of a glove, or they may be sacculated or globular, forming actual cavities in the bronchial structure.

In the mucous variety the secretion consists of young cells and mucous corpuscles, having a yellowish color; in the dry variety the "catarrhe sec" of Laennec, or "dry bronchial irritation," the secretion is scanty, tough, semi-transparent, and occurs in defined globular masses; in bronchorrhoea, which is usually associated with bronchial dilatation, the secretion is abundant, greenish yellow in color, and often fetid.

The majority of cases of chronic bronchitis have associated chronic gastric catarrh.

SYMPTOMS. The most characteristic symptoms of chronic bronchitis are the cough and expectoration. The cough occurs at all hours, but is more severe at night and early in the morning. The cough is not always present. It disappears almost altogether for a time, and then reappears, continuing thus for years. Coated tongue, disagreeable taste, loss of appetite, impaired digestion, with eructations of gases, are present in many cases, due to the chronic gastric catarrh. Unless associated with other diseases, the general health suffers but little, if at all, constitutional symptoms being present only during acute exacerbations.

Mucous catarrh, or, from its occurring most commonly during the winter months, "winter cough," is characterized by paroxysms of cough, more or less violent, followed by the expectoration of a yellowish mucus.

Dry catarrh is characterized by a harsh cough, a feeling of soreness or rawness under the sternum, and the expectoration of small globular masses; this variety occurs with emphysema, gout, rheumatism, and asthma.

Bronchorrhoea, which is associated with bronchial dilatation, and most common in the elderly, is characterized by paroxysms of severe coughing, followed by the copious expectoration of greenish-yellow, often fetid, mucus; the amount expectorated often amounts to four or five pints in the twenty-four hours.

Fetid bronchitis, often associated with bronchial dilatation, has an excessively fetid odor of the breath and expectoration. The decomposition of the secretion may cause gangrene of the bronchial mucous membrane, and even of the lung structure.

PERCUSSION. Unless complicated with other affections, normal; if bronchial dilatation occur, there are diffused spots of the tympanitic or amphoric percussion sound, the physical condition

being a circumscribed cavity containing air and communicating with a bronchial tube.

AUSCULTATION. Harsh or vesiculo-bronchial respiration, associated with more or less profuse, sonorous, sibilant, and large and small bubbling rales; in bronchial dilatation, in addition to the harsh respiration, is found broncho-cavernous breathing, with large and small gurgling rales. If emphysema complicate chronic bronchitis, the physical signs are somewhat modified, and will be pointed out when discussing that affection.

DIAGNOSIS. Make it a rule to always examine the urine in case of cough, and particularly in case of chronic bronchitis, as this latter disease is one of the most common complications of Bright's disease. Incipient phthisis is often confounded with chronic bronchitis. The diagnosis is not always easy. The physical signs of chronic bronchitis are more or less diffused through both lungs, and not, as a rule, associated with failure of the general health; while in phthisis, from the onset, there is a failing health, with a concentration of the physical signs to the apices. The discovery of the bacillus determines the diagnosis.

PROGNOSIS. It unassociated with disease of the lungs, heart, or kidneys, chronic bronchitis is never dangerous to life, although the symptoms are present, more or less, continually, and aggravated upon the least exposure. Rarely is a cure recorded. If associated with phthisis, emphysema, diseases of the heart or of the kidneys, the prognosis is governed by these affections. In turn, it is to be remembered that chronic bronchial catarrh may lead to emphysema of the lungs, asthma, or to cardiac dilatation.

THE TREATMENT.

The treatment for this affection should consist of a general, all-over treatment, to relieve obstructions in the circulation of the venous blood everywhere, and a special, careful manipulation directed to the throat and upper part of the chest. The nerves distributed along the bronchioles must have the pressure removed and that is best accomplished by the neck treatment, using all of the means recommended therefor, which, in the best judgment of the operator, seemeth proper. The jugular obstruction, caused by depressed clavicles, the chest contraction, and pressure upon the phrenics and the nerves that are distributed to the chest muscles, are to be removed, the patient instructed how to inflate the lungs, to oxygenate the blood and to maintain an erect attitude of body, sitting erect, breathing pure air, and to especially care for the digestive organs, the glandular system, the skin, kidneys and liver.

The proper circulation of the blood can only be maintained by due attention to the lungs. There must be all the room allotted therefor, by a complete expansion of the chest, and this can not be done in any other manner than nature has provided—and that is through the normal action of the chest muscles. These directions seem adequate for the purpose of understanding what should be done in all cases.

ASTHMA.

SYNONYMS. Bronchial asthma; spasmodic asthma.

DEFINITION. A paroxysmal, spasmodic contraction of the muscular layer surrounding the smaller bronchial tubes, and perhaps associated with a tonic spasm of the diaphragm and more or less bronchial catarrh; characterized by spasmodic attacks of distressing expiratory dyspnœa, continuing for several hours, days, or weeks.

CAUSES. A true neurosis of the respiratory apparatus. The result of peripheral or local disturbances in the nervous system. Chiefly hereditary. A family history of asthma, chorea, or epilepsy. It sometimes is of reflex origin, starting from diseases of the nasal mucous membrane, explaining the attacks due to inhalation of various substances, as ipecac, turpentine, or irritating dusts. Climate. Some attacks may be due to a peculiar and characteristic disease of the bronchial mucous membrane—an “asthmatic bronchiolitis.” Asthma is more common in men than in women; in childhood and young adults than those of middle life and old age; in the well-to-do and wealthy than in the poor.

SYMPTOMS. The onset of a first attack of asthma is abrupt and sudden, the succeeding attacks being preceded by prodromes, which the individual rapidly learns to appreciate, to-wit: coryza, bronchial irritation, thoracic constriction, marked dyspepsia, or the scanty passage of pale, limpid urine, the “hysterical urine.”

The paroxysm begins, in the majority of instances, in the early morning hours or during the afternoon, with a feeling of anguish and constriction in the chest and an intense desire for air. The breathing is accompanied with loud wheezing, the face is flushed, at times even cyanosed, and bathed in perspiration, the eyes staring, the eyeballs protrude, and the muscles of the neck become prominent as they aid in the effort for air. The dyspnœa soon becomes so severe that the inspiration is but a gasp, the lips are pallid, cyanosis deepens, and the patient feels as if

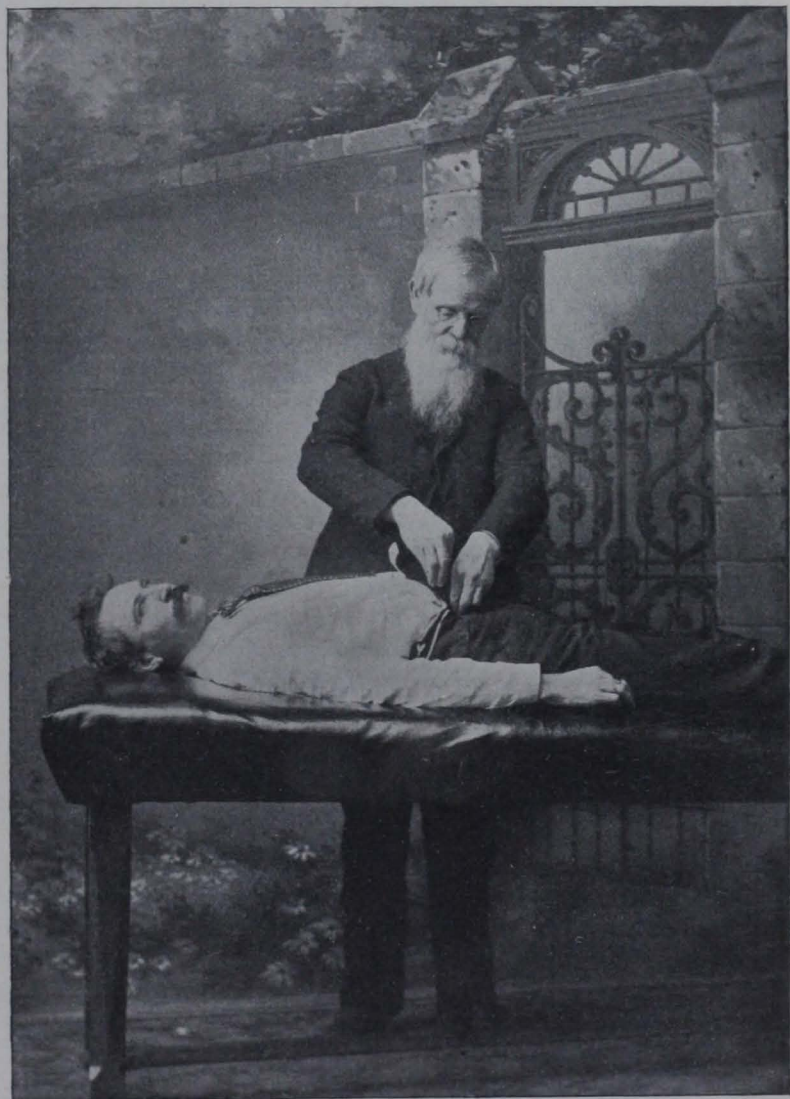
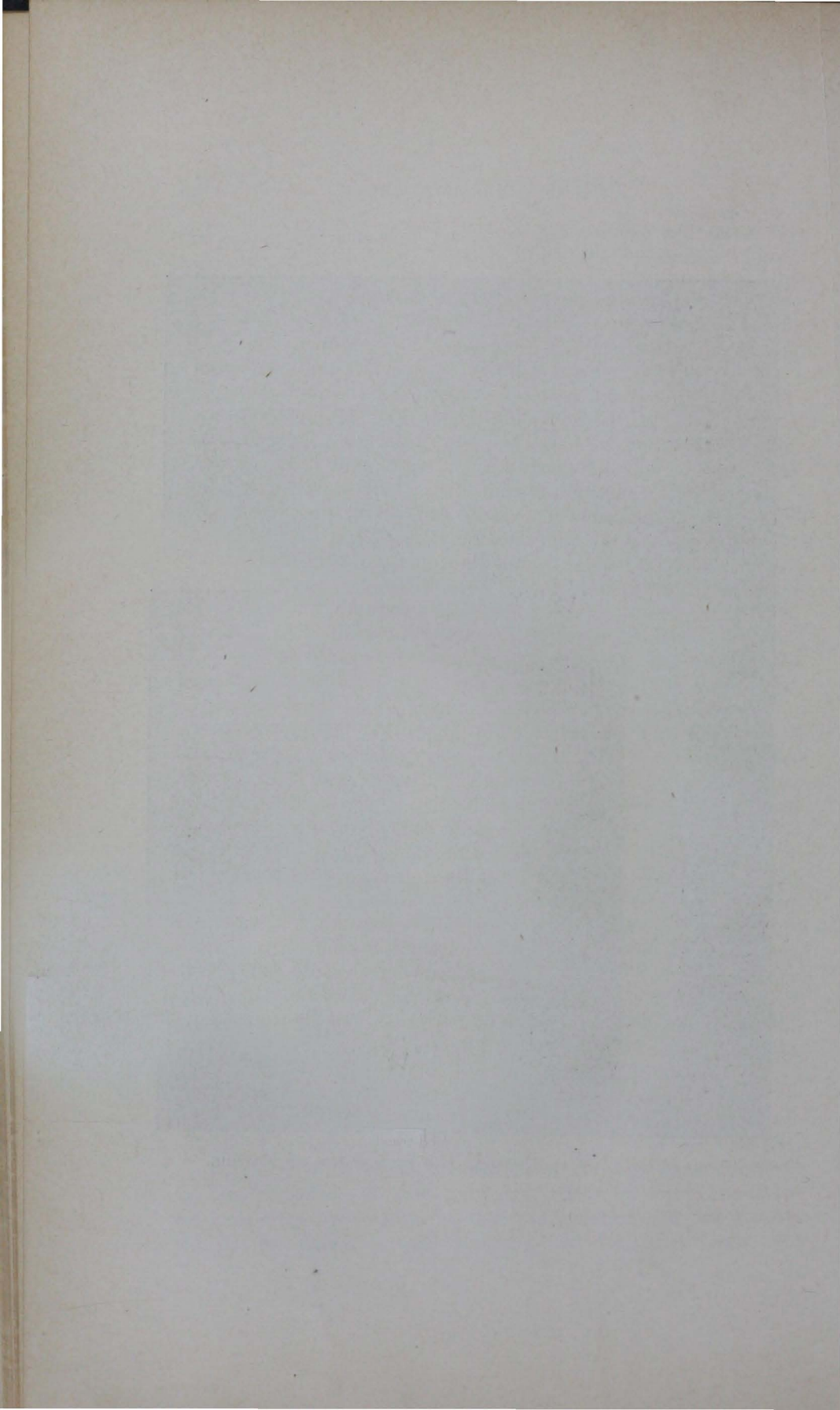


PLATE XXXV.—Showing the Percussion of Bowels.



death were impending. Owing to the tonic contraction of the smaller bronchi the air drawn into the alveoli escapes imperfectly, resulting in the expiratory dyspnœa, the emphysematous chest, and the lowered position of the diaphragm. After some minutes or hours the respiration becomes easier, the air in the lungs changes, the cyanosis disappears, and gradually the paroxysm ceases, the patient feeling exhausted, and the chest fatigued. During the paroxysm there is a short, dry cough, becoming looser as the attack subsides. The sputum of asthma is unique. Early in the paroxysm it is raised with difficulty, and is in the form of rounded gelatinous masses ("perles" of Laennec). If these pellets be carefully examined they will be found to consist of moulds of the smaller bronchi, and, under the microscope, show Leyden's crystals and Curschmann's spirals. After a day or two the sputum becomes muco-purulent, and the spirals and crystals are absent.

The duration of an attack varies from one to many hours, or even days. Instead of single paroxysms, slight remissions may occur at intervals of one, two, or three hours, to be followed by exacerbations lasting from four to six hours, continuing for a week or two, preventing the patient lying down or taking food.

PERCUSSION. During the paroxysm, hyper-resonance over both lungs, termed vesiculo-tympanitic, the "band-box tone" of Bamberger, due to the retained air in the alveoli.

AUSCULTATION. First stage feeble or absent vesicular murmur, with prolonged expiration associated with loud wheezing, whistling, sibilant and sonorous rales; as the paroxysm subsides, the vesicular breathing becomes more apparent, and is associated with moist rales.

PROGNOSIS. In itself asthma is not fatal to life; but if the paroxysms are frequently repeated there results either emphysema, cardiac dilatation, with subsequent dropsy, or even cerebral hemorrhage. Attacks of asthma frequently occur as a complication in emphysema, chronic bronchitis, valvular diseases of the heart, or Bright's disease.

THE TREATMENT.

In the treatment of this affection due regard is to be had to the chest muscles and the nerves controlling their action. The whole group of muscles seems to be involved, spasmodically, and the lungs are affected the same way. Inhalation is easily made, but exhalation seems to be the difficulty. Much has been said and done during the last decade to relieve those afflicted with

this most distressing affection. There are certain vulnerable points to consider, in the treatment of asthma. That it is generally the result of reflex nervous influences, observations abundantly demonstrate. The methods adopted to take away the source or sources of irritation are legion. The inhalation of vapor from certain teas, and smoke from certain compounds, has long been in vogue. Prof. E. H. Pratt has been remarkably successful in relieving many cases orificially—by the dilation and surgical treatment of the lower outlets of the body. The Osteopath thinks he has the highest claims, in that his means are so much easier carried out; to the patient especially, and the results are so effectual and so immediate that it satisfies him, and there is no resort to other means by him. Now what are they? The first thing to understand is, that the sympathetic nervous system directs and controls all action and sensation in the body, and when properly known, and its functions comprehended, disease becomes as easily controlled as an ordinary fire. Begin the manipulations for a moment or two at the base of the brain, in the upper cervical area, posteriorly, then strongly raise both arms, pressing on either side of the spinous processes along down the back, beginning at the level with the shoulders, pressing there with the fingers, or with the knee pressed against the back, while the arms are pulled strongly upward and backward, loosening the hold and lowering the pressure in the back, for three or four times, until the upper four or six dorsal vertebrae are passed with the knee downward. These movements not only stimulate the nerves of the spine, but raise all the intercostales, give vent to accumulated secretion in the lungs, assist in exhalation at once, and if the patient is caused to breathe deeply during these manipulations, there is an immediate relief experienced. The general treatment of the whole system should then be given, and vibratory manipulations briskly and profoundly made over the entire chest, front and rear, with the hand or hands, for several minutes. These vibratory movements aid in removing the obstructed venous circulation between the ribs and intercostal muscles, taking off the pressure at once. The raising of the clavicles should be attended to, and stretching the body backward, using pressure along the sides of spinous processes. This not only relieves the stasis along the spine, but influences the abdominal plexuses and aids the circulation of venous blood and lymph in the viscera. The sphincters at the lower outlets of the body should be seen to, and pressure removed. Treatments to be repeated daily, or every two to four days.

HAY ASTHMA.

SYNONYMS. Hay fever; autumnal catarrh; rose fever; rose cold.

DEFINITION. An acute, specific, catarrhal inflammation of the upper air passages, extending to the bronchial tubes, associated with spasmodic contraction of their muscular layer occurring at a particular season of the year, characterized by coryza, croupy or wheezy cough, and a difficult respiration.

CAUSES. A predisposition, often hereditary, of the nervous system seems to be a strong etiological factor. Persons in whom the predisposition exists have attacks excited by the inhalation of the pollen of grasses, rye, corn, wheat, or roses.

PATHOLOGICAL ANATOMY. Hypertrophy of the inferior and middle turbinated bones; a peculiar hyperaesthesia of the mucous membrane covering the inferior and middle turbinated bones, the middle meatus, the floor of the nose, and that part of the septum below the limit of the olfactory membrane, is frequently associated with the disease.

SYMPTOMS. Begins by irritation of the eyes, severe coryza, with sneezing, a clear, watery, nasal discharge, and congested Eustachian tubes, rapidly extending to the larynx and bronchial tubes, when occurs a hoarse, croupy, and wheezing cough, and difficulty of breathing. The dyspnoea occurs in paroxysms, which are often as severe as those occurring during a regular asthmatic attack. There is mild depression of the nervous system in nearly all attacks. The paroxysms remit after a few days, returning again for several days or weeks, and again remitting, the bronchial catarrh persisting for a month or more. The constitutional symptoms are mild, unless complications occur.

COMPLICATIONS. The affection may extend to the finer bronchial tubes (capillary bronchitis); congestion or oedema of the lungs and pneumonia are not infrequent.

DURATION. Unless a change of climate is resorted to, paroxysms of hay fever continue more or less severe for six, eight, or ten weeks of the year, each year the paroxysms growing more severe.

PROGNOSIS. The affection never proves fatal in itself, but one or more of the following sequelae may result, to-wit: asthma, chronic bronchitis, or loss of the special sense of hearing or of smelling.

THE TREATMENT.

Hay asthma seems to derive its source of irritation from the olfactory nerve terminals—in the mucous membrane of the turbinated bone. This hypersensitiveness is due to increased accumulation of blood, that due to muscular contraction of the neck muscles, closing (or partially so) the jugulars; the blood and lymph accumulate, swelling, hyperaemia ensues, reflex action is conveyed to the bronchial tubes, thence to the lungs, the diaphragm; sneezing ensues; the liquor sanguinis exudes through the walls of the ducts; chemical changes result. The removal of venous obstruction must be effected in all of the veins returning the blood of the head and face to the heart. The head and neck treatment should be made, vibratory movements on fauces, in the mouth, on cheeks, inner canthi of eyes, nares, temples, neck, angles of lower jaws; raising the clavicles, chest muscles, ribs, arms, and pressure along the sides of the spine, while the arms are extended, and deep inspirations made during each arm movement. Remove all pressure from the sympathetic nerve filaments in the sphincters. Treatments may be given every day or two until a cure is effected. These cases will usually obtain immediate relief, but some require persistent treatment for several weeks.

WHOOPING COUGH.

SYNONYMS. Hooping cough; pertussis.

DEFINITION. A convulsive, paroxysmal cough, consisting of a number of forcible expirations, followed by a series of deep, loud, sonorous inspirations (the whoop), repeated several times during each paroxysm, and associated with catarrh of the bronchial tubes.

CAUSES. Chiefly a disease of childhood, one attack generally removing the susceptibility; contagious; the result of an unknown poison, perhaps atmospheric, affecting the nervous system.

PATHOLOGY. The changes, if any, occurring in the nervous system are unknown. It is said that "irritation of the internal branch of the superior laryngeal nerve produces relaxation of the diaphragm, spasm of the glottis, and a convulsive expiration, the series of phenomena present in a paroxysm of asthma." Hyperaemia of the mucous membrane of the nares, pharynx,

larynx, and bronchial tubes, with diminished secretion, followed by an increased secretion of a transparent mucus, afterward becoming purulent, the mucous membrane pale and anaemic.

SYMPTOMS. Divided into three stages, to-wit: catarrhal, spasmodic, and terminal.

Catarrhal Stage.—Originates in an ordinary naso-laryngo-bronchial catarrh, with a loose cough. Duration one or two weeks.

Spasmodic Stage.—The cough becomes paroxysmal, consisting of a succession of short, rapid expiratory efforts, the face becoming red, the eyes swollen and protruding, the body bending forward, and when these expiratory efforts have exhausted the breath, they are followed by a deep, loud, crowing inspiration—the whoop; each paroxysm being composed of three such spells, the last one followed by the expectoration of a small amount of tough, viscid mucus. The attacks of cough may be so severe as to cause vomiting, and if the vomiting occur shortly after food has been taken, the nutrition of the patient will suffer. Profuse epistaxis is not infrequent. Duration about four weeks.

Terminal Stage.—The paroxysms recur at longer intervals, are of shorter duration and less intensity, the catarrhal symptoms being more marked, the expectoration freer. Duration two to six weeks, often followed by the “cough of habit.”

COMPLICATIONS. Congestion of the lungs, capillary bronchitis, pneumonia, and emphysema, or rarely convulsions, hydrocephalus, or apoplexy.

DIAGNOSIS. During the catarrhal stage whooping cough can not be distinguished from a common cold, but on the advent of the characteristic whoop the diagnosis is determined.

PROGNOSIS. Depends upon the age and strength of the patient, the severity of the paroxysms, and the presence or absence of complications. Ordinary cases, favorable. Moderately severe attacks during infancy are followed by cerebral symptoms, while attacks occurring in adults are followed by chest symptoms.

THE TREATMENT.

The treatment should begin with gentle pressure on the vaso-motor area for a couple of moments, then gently stretch the muscles of the neck, manipulating them from side to side (on both sides), well up under the chin, being particularly careful to take the pressure off of the glossopharyngeal and spinal accessory nerves—the phrenic and pneumogastric. Then raise the clavi-

cle and chest muscles, the intercostales, and pull the arms strongly upward and backward, while the knee is placed on either side of the upper dorsal region; or have the patient lock hands above head, the operator raise the chest muscles by extension of the arms while the pressure is made between the scapulae, and at each movement of the arms the fingers pressing the dorsal terminal filaments, lowering the pressure at intervals of one or two inches each time, and going on down as far as the eighth dorsal. The several moves to accomplish this object may be instituted as occasion demands—so that is done. Placing the thumb on one side of the spine, and using as hard pressure as may be while the arm is raised and lowered, is an excellent way to relieve the chest of engorgement. The pharynx should receive attention inside of the mouth, with the palm of the index finger, occasionally. The disease may be cut short very much by these and such manipulations as suggest themselves to the manipulator from time to time. Treatments should be had every day (every other day at farthest) till relieved.

EMPHYSEMA.

SYNONYM. Vesicular emphysema.

DEFINITION. Dilatation of, or increase in the size and capacity of the air vesicles, characterized by enlargement or distention of the lungs, difficulty of breathing, especially on exertion, and associated sooner or later with dilatation of the heart.

CAUSES. The predisposing cause of emphysema is a hereditary nutritive derangement of the lung structure, often associated with a rigid enlargement of the thorax. The exciting cause is the result either of a too forcible and long continued inspiration—the theory of inspiration; or the excessive mechanical distention of the vesicular walls by forced expiration—the theory of expiration. But for either of these theories to be operative the lung structure must be congenitally weak, for if violent respiratory efforts alone were the essential factor, the disease would be much more frequent. What is known as vicarious emphysema is a distention of the air cells of the healthy portion of the lung, some other part being the seat of consolidation.

Interlobular emphysema is the presence of air in the spaces between the lobules of the lungs underneath the pulmonary pleura.

PATHOLOGICAL ANATOMY. The situation of vesicular em-

physema is, in the majority of cases, the superior portions of the chest, and is more marked on the left side than on the right.

An emphysematous lung feels remarkably soft to the touch, and upon cutting, a dull creaking sound is barely perceptible. It is of a pale red color, the vesicular walls are thinner and slighter, the vesicles are greatly enlarged, sometimes to the size of a pea or bean, and have an irregular shape, and traversing most of these large cysts (dilated vesicles) a few delicate bands, the remains of the lacerated interalveolar septa, are visible. With the destruction of the septa many of the capillaries are destroyed, whereby the emphysematous tissue is remarkably bloodless and dry.

In consequence of the destruction of so many of the capillaries, the obstruction to the pulmonary circulation becomes so great that the pulmonary artery and right cavities of the heart are greatly distended; finally the muscular tissue of the heart undergoes granular, followed by fatty degeneration. The distention of the veins results in a general venous stasis, to-wit: nutmeg liver, congested kidneys, and gastro-intestinal catarrh.

SYMPTOMS. The disease is often not suspected until it is well developed. The chief symptoms of vesicular emphysema are difficulty of breathing (dyspnœa), greatly aggravated on exertion, more or less cough, the result from dilatation of the heart, particularly cyanosis without marked distress. The discomfort of the patient is often increased by paroxysms of asthma.

INSPECTION. The shoulders are rounded, the intercostal spaces widened, the vertical diameter elongated, with circumscribed prominences between the clavicles and nipples, often increased by the act of coughing—the peculiar “barrel-shaped” chest, characteristic of this disease. The character of the respiratory movements is marked, there being but slight movement observed on forcible respiration, the chest having the constant appearance of a full inspiration.

PALPATION. The vocal fremitus is diminished, and the cardiac impulse depressed and nearer to the sternum.

PERCUSSION. The resonance is increased (hyper-resonant) over all the emphysematous portions, and if the whole lung be involved, extends to the seventh or eighth rib anteriorly and to the twelfth rib posteriorly. The hepatic dullness may not begin until the inferior margin of the ribs is reached; the cardiac dullness is lessened, on account of the emphysematous lung nearly covering the heart.

AUSCULTATION. The vesicular murmur is weakened, and in pronounced cases almost absent. If bronchitis be present, the inspiratory sound may be rough or sibilant in character, but its duration is always shortened. Expiration is always prolonged, and if bronchitis be present, may be associated with more or less pronounced moist or bubbling rales. The first sound of the heart is lessened in intensity and duration, the second sound being sharply accentuated.

DIAGNOSIS. Bronchitis is distinguished from emphysema by the absence of dyspnoea, hyper-resonance of the chest, changes in its shape, size and movements, and the disturbance of the circulation. Spasmodic asthma by the paroxysmal character of the affection, emphysema being a permanent malady, with attacks of asthma. Cardiac diseases due to other causes than emphysema do not have the characteristic physical signs of that affection.

PROGNOSIS. Vesicular emphysema is essentially a chronic disease. In itself it rarely proves fatal, but if aggravated, from any cause, or if associated with frequent or prolonged asthmatic paroxysms, the cardiac changes are hastened, general dropsy supervenes, death occurring from exhaustion, or, more commonly, as the result of intercurrent attacks of pneumonia.

THE TREATMENT.

The general treatment is needed in this affection, and especially the knee and pull-back arm treatment, the sitting erect and normal breathing. Due attention should be given to the treatment of the phrenics, the pneumogastric and spinal accessory nerves. Take off the pressure by stimulating the vaso-motor area, and give special treatment to the brachial region; and watch the glandular systems and sphincter muscles, and treat them as indicated. The relief of the jugular pressure aids greatly in relieving the excessive air in the interlobular spaces. Study the cases carefully and institute treatment according to the conditions demanded. It may require several weeks' treatment to bring about a normal condition.

HÆMOPTYSIS.

SYNONYMS. Bronchial hemorrhage; broncho-pulmonary hemorrhage; bronchorrhagia.

DEFINITION. The expectoration of pure or unmixed blood, usually of a bright red color, following the act of coughing.

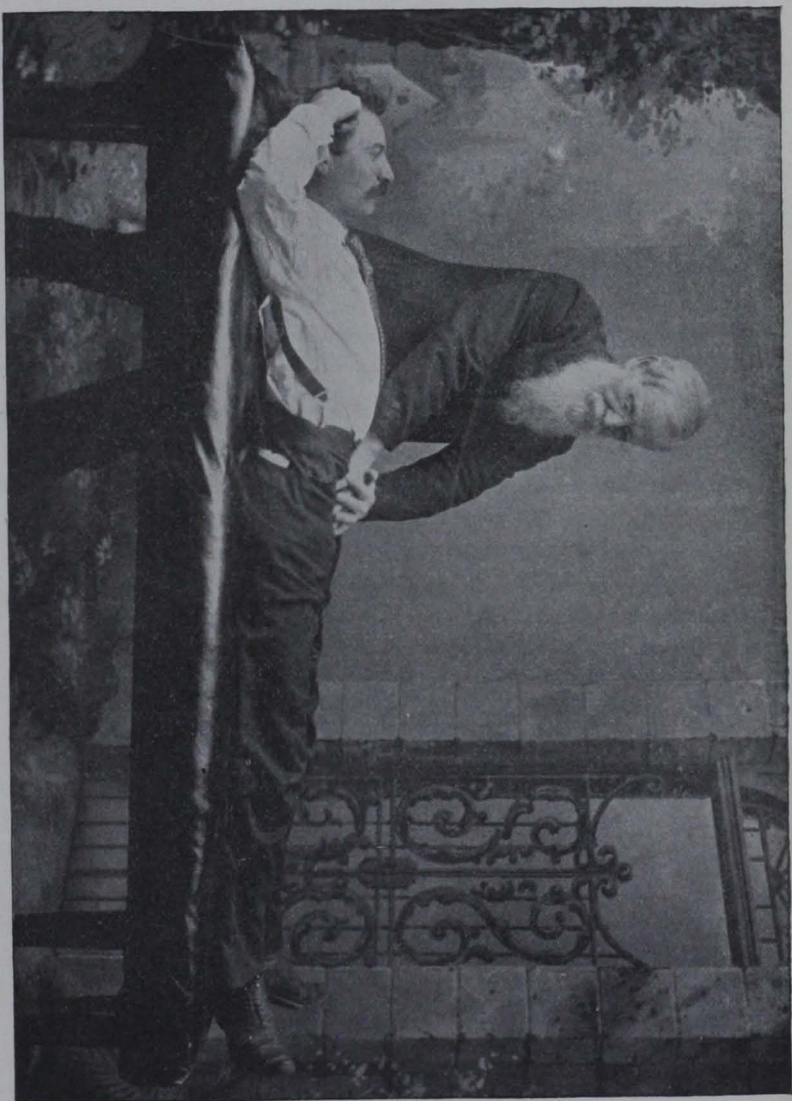


PLATE XXXVI.—Showing Vibratory Movement of Viscera.

CAUSES. In the majority of cases, the result of tubercular deposition in the walls of the minute bronchial arteries; excessive cardiac action; bronchial congestion; excessive bodily exertion, straining, lifting, or running; a symptom of haemophilia ("bleeder's disease").

PATHOLOGICAL ANATOMY. Haemoptysis rarely causes death in itself, so that few opportunities for observing post-mortem appearances are obtained, and when they do occur, the location of the hemorrhage is seldom found.

The air passages are more or less filled with clotted blood, the mucous membrane is swollen, and of a dark red color; rarely, pale and bloodless. The air cells contain blood clots, or are distended with air, the bronchi being filled with clots, preventing its escape. Unless the clots are rapidly removed by expectoration or absorption, a secondary inflammation develops around about them.

SYMPTOMS. "Spitting of blood" occurs suddenly; rarely, it is preceded by epistaxis, cardiac palpitation, and some difficulty of breathing. It begins with a sensation of warmth under the sternum, tickling in the throat, a sweetish taste in the mouth, which, when attempting to remove by the act of coughing, a warm, saltish, bright red, frothy liquid gushes from the mouth and nose. The quantity of blood raised varies from an ounce to a pint. The appearance of the blood depresses the individual, he becoming pale, tremulous, often fainting. The attack may subside within half an hour to several hours, returning for several days, in the meantime the expectoration being either bloody or streaked with blood. A slight febrile reaction, with chest pains, supervenes upon the hemorrhage, the result of the inflammation at the site of the bleeding, which soon subsides, except where blood clots develop a secondary pneumonia, which may undergo the cheesy metamorphosis.

AUSCULTATION. Coarse, bubbling rales are heard in circumscribed portions of the chest.

DIAGNOSIS. From epistaxis, or hemorrhage from the posterior nares, it is distinguished by the absence of air bubbles and an inspection of the fauces and the nasal cavities.

Haematemesis, or hemorrhage from the stomach, differs from haemoptysis in the blood being vomited instead of expectorated, of a dark color, clotted, mixed with the acid contents of the stomach, followed with black, tar-like stools, and the absence of rales in the chest.

Exceptions to the above occur when the blood from the lungs is first swallowed and afterward raised by vomiting, or when the hemorrhage in the stomach is caused by the erosion of a large artery, the result of ulcer of the stomach; in these cases, however, the raising of blood is preceded by epigastric pain and the blood is not frothy.

PROGNOSIS. Haemoptysis in itself rarely terminates fatally, although causing much depression; the patient rapidly recovers, unless secondary pneumonia results. In nine cases out of ten it is the diagnostic sign of phthisis.

THE TREATMENT.

Perfect rest in bed, the head and shoulders elevated, and perfect quiet, the diet to be bland, and drinks cool, the patient swallowing small particles of ice. Common salt, dissolved in the mouth and swallowed, is a popular remedy, and if of no real benefit, serves to occupy the attention of the patient and friends. The treatment should begin by holding the vaso-motor area for three to five minutes, and during the last of said pressure, place the hand on the forehead and counter-press, and with the finger tips press upward against the under edge of the occiput on either side of the axis for a moment or two, gently tipping the head backward. The same result may be accomplished with the arm placed under the chin of the subject, and stretching the neck upwards and using pressure on the upper back of the neck area. Then raise the clavicles while the arm is extended (both sides). See that the jugulars are freed from clavicular pressure; raise the chest muscles steadily, either one or both sides. The above treatments, one or all of them, at the one sitting, until relief is obtained. The subsequent treatments should be especially directed to taking off the pressure from the parts affected—the bronchioles—keeping the veins all free around the neck, and stimulate the dorsal area anteriorly and posteriorly, and on the sides by arm movements and vibratory manipulations. The latter will be greatly beneficial if continued for several minutes at each sitting. The knee and chest treatments should be made with extreme care and mildness at the first. The element phosphate of iron would be a good adjuvant in such conditions, and for extreme exhaustion, Kalii phos. These elements are lost when the hemorrhage occurs. General, light treatment should be given every other day.

GENERAL AND SPECIAL TREATMENT

GENERAL TREATMENT.

Beginning at the back of the neck, raising the neck up with the hands, fingers meeting near spinous processes on either side of vertebrae, with top of head against operator, springing neck as shown in Plate No. I., then dropping hands on either side of neck, proceed to roll head from side to side, using the fingers alternately against side of neck, moving and manipulating all of the muscles on the posterior aspect of neck up and down the sides of neck for several successive moves; then placing one hand under neck, the ends of fingers reaching across back of neck to under and posterior side of the mastoid process, the other hand gently curved around the chin, pull gently with both hands until there is a perceptible moving of the whole body upwards; then, holding taut the hands in position named, turn head toward fingers of hand under neck, pressing upward with ends of fingers on neck; still holding neck taut, turn head back to former straight position with the body, then let go both hands; change position of hands so as to turn head in other direction same way. Then holding the finger ends all in a bunch near spinous processes, against back of neck, make several vibratory moves with both hands at the same time, jerking up and down with both hands, fingers pressing on sides of neck, well back near spines, moving up and down the neck as moves are made. Then place the ends of one or two fingers in angle of jaws, direct patient to open the mouth widely, and operator pulls fingers upward behind angle of jaws tightly, and as patient closes mouth and jaws lets go. This is not painful, except fingers are held taut while the jaws are being closed, which should not be done. Then, with finger ends closed in a bunch, with pulp ends