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Osteopathy Complete,

BY

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KANSAS CITY, MO.,
Graduate of the American School
of Osteopathy.

Fully Illustrated.

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Preface.

In presenting *Osteopathy Complete* to the student and practitioner we feel that we are entering a field comparatively new, and upon which very little has been written.

The word "osteopathy," signifying bone-disease, is a misnomer, and is in itself misleading. It was coined by the discoverer of a few of the fundamental principles of this new science of healing.

The human system is, to all intents and purposes, a wonderful machine, capable of running for an indefinite period of time, unless interfered with by accidents, dislocations, contraction of muscles, obstruction of the nerve-force, or the circulation of the nutritive fluids of the body.

The heart is compared to a double force-pump, driving the blood through the arteries, or irrigating channels, which pervade the most hidden recesses of the entire body; the veins collecting it from the capillaries and returning it to the heart.

The brain is compared to a dynamo which generates, and transmits by way of the nerves the forces which control and give vitality to every tissue and organ of the body.

Osteopathy is based upon a thorough knowledge of anatomy and physiology, and enables the skilled operator to reduce dislocations, or, by mechanical methods, to keep free the wonderful forces and nutritive fluids of the body so essential to true physiological conditions; and that its methods are efficacious in the treatment of many diseases which have baffled the skill of almost all other methods, which have been tried and proven to be of no avail, can be attested by thousands who have been restored to health and usefulness by an application of its principles.

With an earnest desire to advance the cause of Osteopathy, and place it before the public in its true light: at the request of students

and practitioners, we have thrust aside the veil of mystery in which it has been shrouded by its discoverer and his associates.

Such standard works as Gray, Landois, Saunders, and Musser, which should be in the library of every osteopath, have been freely consulted.

The author has endeavored to be accurate, concise, and modern, and to merit in the future the firm support and encouragement received in the past.

We are deeply indebted to Dr. Helen M. Barber for many valuable suggestions; also to Dr. Sanford T. Lyne for valuable assistance in the classification of diseases. We are also deeply indebted to Dr. Andrew E. Knutson for valuable assistance, preparation of index and treatise upon dietetics.

Elmer D. Barber, D.O.

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Introduction.

OSTEOPATHY.

Osteopathy is a progressive science, and is as yet in its infancy. Valuable discoveries are being continually made by skillful members of the profession while engaged in research and experiment. It does not claim to cure all the ills flesh is heir to; neither would it presume to detract from the virtues of any other method of healing. It is simply the response to the demands of mankind for a therapeutic science eminently superior in points of rationality of method, freedom from injury to the patient, and successful results, as compared with all other methods in use. Its necessity was to a large extent due to the fact that the oldest and most general method of practice has had, since the sixteenth century, some of the most intellectual men of the world engaged in research along the lines of its theory, and still claims to have discovered and presented to the world but three absolute specifics for the ailments of human-kind, and the efficacy of these has not yet been attested by the experience of the subjective patients.

While Osteopathy does not expect to entirely supplant materia medica, its merit has already been established beyond any peradventure, and no other method of healing has, in so short a time, made such rapid strides into public favor and confidence; which is entirely due to its remarkable record, which, although a majority of the cases treated were

termed chronic, and had previously tried almost all other methods without the result of a cure, shows about ninety per cent of the cases treated benefited, seventy-five per cent completely cured, while only ten per cent received no relief, and not one injured or made worse. In view of the wonderful record, a number of States have passed laws recognizing it as a safe and efficacious method of treatment; and it is not only receiving the attention and endorsement of the most intelligent classes where it is being introduced, but is commanding the consideration of the progressive minds of the medical world.

Owing to the literal translation of the word "Osteopathy," its appropriateness to the science, as taught and practiced, has to some extent been criticised. It may be necessary, therefore, to explain that, while it seems to have been the original idea of the founder of the science that nearly all diseases are caused by dislocated bones, the experience of his students does not prove this theory to be correct, but find that the adaptation of the name lies not so much in the treatment of bones as in the use made of them in applying the treatment; so that it may be said that the name "Osteopathy" is significant of the science, not only to the extent that bones constitute the framework or basis on which the superstructure of the human body is constructed, and which must be perfectly adjusted and functionally normal to make possible a complete physiological condition, but the skeleton furnishes indispensable starting-points to the osteopath when examining the body in search of abnormalities, as well as the exact location of important nerve-centers, arteries, and veins, so essential to intelligent treatment. Further than this, the bones of the extremities are aften used as levers, fulcrums, etc., where the treatment requires the

stretching of contracted muscles, freeing the circulation of the nutritive fluids and nerve-currents of the body.

Osteopathy is veritably a common-sense method of treating diseased conditions of the body, either structural or functional—without knife or drugs,—by means of strictly scientific manipulations. It makes no demands upon the vitality of the patient, but enlists the curative powers contained within the body, which readily respond when properly appealed to. Its method is purely mechanical, and its cardinal principles might be classified as follows: *Skeleton Adjustment, Glandular Activity, Free Circulation of Blood, and Coördination of Nerve-Force.*

The art of applying its methods is dependent upon a thorough knowledge of anatomy and physiology, and a proper application of the principles involved therein, as well as a knowledge of the organic powers of the body, and the nerve-centers through which they may be excited to action and regulated.

The osteopath, being "a student of forces," deals with the body as a wonderfully constructed machine, composed of various tissues and organs, each performing some specific function in the promotion of vital economy, under the supervision of vital forces; and when perfectly adjusted, will continue to operate its full appointed time, unless interfered with by accident or abuse.

All lesions causing pathological conditions are not only the excess, defect, or perversion of some structure or function, but it is a physiological conclusion that they will be found accompanied by incoördination of the vital forces of the body; that is, an excessive or excited condition of some vital energy, as compared with some other in a corresponding degree of deficiency or inactivity. The vital forces being

thus deranged, harmony is destroyed and the system becomes diseased.

To detect a pathological condition, the osteopath must know well a perfect anatomical and physiological being; just as a detector of counterfeits must be perfectly familiar with every point of the genuine before he can be skilled in his profession; and although the osteopathic application of the principles of anatomy and physiology differs materially from that made by any other science of therapeutics, it is perfectly rational and purely scientific. The proper deducing of the cause from the effect being an elementary principle of intelligent treatment, the osteopath applies his methods to the removal of the cause, be it the reduction of a dislocation, the arousing of an enervated organ, equalization of the circulation of the body fluids, or the coördination of the nerve-force; harmony—which is the beauty and strength, not only of all institutions, but of all mechanism as well—being thus restored, health is the result: whereby is promoted by osteopathic methods the production and maintenance of healthy tissue and function in the system.

SKELETON ADJUSTMENT.

It is obvious to the student of physiology, of even ordinary intelligence, that there can be no complete condition of health without a perfectly adjusted skeleton. Its relative importance to the weal of the body is that of the foundation to the house. That luxations are much more common than supposed, and can be produced by an accident so slight as to go unobserved, is painfully demonstrated by the thousands of cases that have been overlooked by some of the most eminent practitioners; when, had they been searched for

from an osteopathic standpoint, they could no doubt have been easily reduced, thus removing the cause of many morbid affections that often prove so perplexing to the practitioners of the usual methods.

A **dislocation** is not necessarily the result of external violence. It may be caused by the ulceration of a process of bone, elongation of ligaments, or by muscular action; so that its discovery must not depend too much upon the history of some violent accident, but should be arrived at by a minute examination and comparison with a normal joint, the success of which largely depends upon the practitioner's familiarity with a perfect anatomical condition. There will usually be found in case of a dislocated member, alteration in the form of the joint and axis of the limb, impaired circulation in the parts involved, loss of proper motion, pain on manipulation, lengthening or shortening, prominence at one point and depression at another, but in some cases precise measurements to and from certain fixed points about the joint as compared with a normal joint are necessary in order to discover the true condition.

The **first examination** of a patient by an osteopath is, or should be, with special reference to the normality of the skeleton, for though a luxation may be but partial, it may be causing a pressure at some point upon a nerve or blood-vessel of which the patient is entirely unconscious, and thus remain unaccounted for as a barrier to the recovery of health.

To undertake to heal a diseased body with a dislocated member without first reducing the dislocation is like trying to operate a machine with an important cog-wheel out of gear.

GLANDULAR ACTIVITY.

The normal action of the secreting glands is absolutely essential to health, and particular attention to the proper performance of this function is not only demanded of the osteopath, but remedies influencing the secretions are given a first place in the practice of materia medica.

Secretions are divided into two classes, known as "recrementitious" and "excrementitious." The process is carried on by cells, which in most cases are grouped in organs known as glands. These cells are defined as "nucleated masses of protoplasm of microscopic size." Protoplasm is germinal matter of a gelatinous nature—a proteid compound consisting largely of muco-globulin. Chemically it contains C. H. N. O. S., and its reaction is albuminous. The nucleus is a small vesicular body imbedded in the protoplasm. Chemically it is a nitrogenous constituent, and its purpose is largely that of cell-reproduction. Biologically, cells are the fundamental elements of living tissue, and in view of the demands made upon them by the process of destructive metabolism, whereby the protoplasm of cells is being constantly destroyed by active use, Nature has wisely provided them with the power of reproduction of kind that they may remain constant. They have the power of motion in response to stimuli, and the power of absorbing certain portions of food and rejecting the rest.

The **function** of the principal secreting **glands** of the body is not a mere physical process of filtration, as might be inferred from some authorities, but is in fact a vital process; for these glands not only separate from the blood certain materials for reabsorption, but by their elaborating processes convert these materials into higher degrees of tissue

products; dependent upon a course of chemical operation of their own by which they manufacture new substances not found in the blood, the whole forming a secretion known as recrementitious matter for use in the promotion of animal economy. They separate certain other materials from the blood to be discharged from the body as excrementitious matter, being either useless or harmful if retained.

It is therefore apparent that with glandular activity the body possesses laboratories of its own capable of manufacturing within itself all the remedial properties conducive to its well-being; so that it is not only unnecessary to introduce unorganized chemicals into the system, but to do so and expect them to become organized by inactive glands is unreasonable in the extreme. All materials must be especially organized by the glands of the body before they can promote the function of tissue-nutrition, and to introduce unorganized matter into the system and expect it to be appropriated without becoming organized, one had as well undertake to add inches to pounds. Furthermore, the majority of chemicals in crude state are injurious to the system, and Nature has unerringly provided that one of the special functions of the liver shall be to filter from the blood containing fresh absorptions from the digestive tract all materials that would be poisonous to the body if permitted to enter the general circulation, and reject them back to the intestines to be discharged. Might it not then be an interesting problem—the solving of which would cause confusion—as to how much of the chemical introduced reached its destination and accomplished its purpose, without causing a corresponding injury to the system.

It is a well-established physiological principle that glandular activity is affected by the amount of blood passing

through the gland, and that the function of secretion is dependent upon proper innervation and free circulation of blood. It is through these agencies that the osteopath corrects glandular irregularities and promotes the function of secretion.

The cause of lesions of secretions may be local or general, and the local or general secretion is affected accordingly. A sharp pain is evidence of excitation; a dull pain, with sensations of weight and fullness, of glandular inactivity. If these symptoms are not local, the condition is likely general; and if the condition is one of inactivity, the skilled osteopath applies his method of increasing the general blood-pressure, by increasing the force and frequency of the heart's action; regulating the caliber of the arteries, through the vaso-motor centers; and coördinating the general nerve force. If the condition is local, his method would be to increase the local blood-pressure, by relaxation of the arteries supplying the gland affected, without compensating relaxation elsewhere; or by constriction of the arteries other than those supplying the gland. If the condition should be one of excitation or excess, methods opposite those used for inactivity would be applied.

FREE CIRCULATION OF BLOOD.

It is conceded by all leading authorities that a normal circulation of blood is one of the most important functions of life, and it can hardly be more forcibly demonstrated than by the fact that in a normal condition a quantity of blood equal to the entire amount in an ordinary human being passes through the heart about every thirty seconds. The blood represents about one-twelfth of the body weight, and normally is distributed about one-fourth in the liver; one-fourth

in the muscles; one-fourth in the heart, lungs, and large vessels; and one-fourth in other organs. It is composed of serum—a nearly colorless liquid—and red and white corpuscles. Chemically it contains proteids, fats, sugar, salts, and hemoglobin. The corpuscles represent about forty to forty-five per cent of its total weight, and there are about 14,500 white corpuscles to 5,000,000 of the red in each cubic millimeter; the proportion varying in different conditions of health and disease. The red corpuscles have a definite life, and degenerate as do other parts of the body. The white corpuscles have the power of ameboid movement, by which they are able to pass through the walls of capillaries into the surrounding tissues. They have their source of origin in the lymph glands and the spleen; and some of them end in red corpuscles, while others take part in inflammatory processes being sacrificed in pus-formation.

The blood is propelled by the heart through the arteries to the capillaries in the substance of the tissues, where it is collected by the veins and returned to the heart; thus serving as a transporting medium, carrying food and oxygen to the tissues of the body for their nourishment, and bringing back morbid elements for excretion. Not only is glandular activity dependent upon a free flow of blood, but the minute and equal distribution of this nutritive fluid is indeed essential to the proper appropriation of tissue-building elements, as well as the no less important process of **retrograde metamorphosis**, whereby are removed waste and worn-out materials, which, if retained in the system, would inevitably produce disease. Further than this, the union, in the body, of oxygen received by the blood from the lungs, with carbon and hydrogen, produces a process of combustion by which the normal heat of the body is maintained, so that with an

obstructed circulation the part of the body involved would of necessity suffer from a lack of proper warmth. Being the basis, therefore, for the vital performance of assimilation and elimination, as well as the maintenance of the body temperature, health must be dependent upon a regular and uniform circulation of blood, and disease will surely follow any continued variation of this function.

The osteopath refers more causes of pathological conditions to impairment of this function than to any other of the body, and through its agency effects more cures.

The **constriction of an important artery or vein**, caused by a slightly displaced bone or organ, or an indurated muscle, will produce an excess of blood in one part of the body, and a corresponding deficiency in another, probably resulting in headache, and a corresponding coldness of the lower extremities; depending, of course, upon the location of the obstruction, which, if not removed, will almost certainly cause irregular action of the heart. To illustrate: A hose with two branches being attached to a force pump, and one branch being constricted by pressure of the hand or foot, more water is of necessity forced through the other branch, and a greater effort is required of the pump in propelling the given amount of water, resulting in an early impairment of the pump if the obstruction is not removed.

A **free flow of blood** is the remedial agency in the osteopathic treatment of inflammatory processes; their termination by resolution being promoted by relaxation of the structures involved, thus freeing the blood-passages through and from the affected area, whereby the capillaries are flushed with a fresh supply of blood and morphological elements rapidly removed as the circulation is being restored.

Not only is this method efficacious in simple processes, but especially so in those known as **infective**, where **micro-organism** is a peculiar characteristic, such as diphtheria or typhoid fever. Osteopathy has for its purpose, in the treatment of all such diseases, simply the restoration of healthy tissue, claiming that no microbe can inhabit tissues physiologically normal, and that only such as have imperfect elimination of waste materials are susceptible of their invasion, and suitable for their development. They are found, therefore, as the result rather than the cause of pathological conditions. This theory is strongly demonstrated by the fact that two individuals may be exposed to an infectious disease at the same time, and one may contract it while the other does not, which is owing to the difference in the physiological condition of the two systems. In one case there was free circulation of blood rich with **leucocytes**, or **white blood-corpuscles**; the eliminating processes were active, thus giving the system the power of resistance; or, in other words, it was physiologically normal. In the other case, the circulation of blood was sluggish, and perhaps deficient in white blood-corpuscles; there was no doubt glandular inactivity and impaired elimination, thus giving the system no power of resistance; or, in other words, it was already in a pathological condition.

Leading physiologists teach that one of the most important *offices of the white blood-corpuscles* is to attack, devour, and destroy invading micro-organism. They are, therefore, beyond any question, a powerful microbicide, and a remedial agency in these processes especially provided by Nature, and consequently uninjurious to the system. It is within the province of the skillful osteopath not only to increase their number through their sources of origin, but to aid the great

transporting medium in conveying them to the scene of conflict.

Osteopathy stands without a formidable competitor in the art of equalizing the circulation of blood, and though its method of freeing the blood-passages and regulating the action of the heart are so evidently in accord with the principles of anatomy and physiology, yet they are not even remotely approximated by the methods of any other science of therapeutics.

COÖRDINATION OF NERVE-FORCE.

It is not only agreed that pathological conditions may be of neurotic origin, but that the phenomena of all lesions of the body are to some extent portrayed through the nervous system. The control of the nervous system over the functions concerned in the motion, sensation, and nutrition of the entire body places it among the leading agencies through which the osteopathic methods of healing are applied.

To exercise a controlling influence over this system has baffled the skill of the most eminent practitioners of the old schools. Their methods having been confined almost exclusively to experiments with electricity and chemicals.

The osteopath regards the nervous mechanism of the body as an immense electrical system, containing its own batteries, wires, and other necessary appliances. It is capable of generating all the force needed, and simply requires perfect continuity and coördination by mechanical methods.

The brain receives sensory impressions, and transmits motor impulses. The spinal cord conducts them to and from the various wires which carry the impulses to the most remote tissues of the entire being.

The white or fibrous nerve-matter is composed of a number of tubes, each containing an axis-cylinder, insulated and protected by the White Substance of Schwann. A bundle of these tubes is invested by a covering, the neurilemma, and is called a "**nerve**"—the arrangement having been likened to a submarine telegraph cable. The axis-cylinder connects the nerve-center with the cells of the periphery. The fibers contained in the nerve are classified as *afferent* and *efferent* fibers, and their function is the *transmission of stimuli.* The former carry impulses from the periphery to the center, and are known as *sensory* fibers. The latter carry them from the center to the periphery, and are known as *motor* fibers. The system has two divisions, the Cerebro-spinal, and the Sympathetic. The cerebro-spinal includes the brain, medulla oblongata, and spinal cord, also the nerves proceeding from them. The sympathetic consists of a double chain of ganglia—small nerve-centers—which lie on either side of the vertebral column, extending its entire length, and are closely connected with the spinal nerves, each of which gives off a communicating branch, containing both motor and sensory fibers, to a neighboring sympathetic ganglion. Indeed, the two systems are so closely allied that practically they may be considered as one, for by following closely the anatomy and physiology of the sympathetic system it will be found that the fibers of most of its nerves have their origin in the spinal cord. For instance, the splanchnic nerves, which form a great part of the solar plexus supplying the abdominal viscera, have their fibrous origin in the spinal cord, as do the accelerator nerves of the heart in the cervical and upper dorsal region of the cord, stimulation of which center physiology teaches will increase the heart's action. There are certain fibers, known as the **vaso-motor** fibers, whose

function has to do with the regulation of the caliber of the blood-vessels, especially the arteries. They are divided into constrictor and dilator fibers, and, though controlled by the sympathetic system, come from the spinal cord, their most important spinal center being in the cervical region; while the nutritive function of the entire body is under the immediate supervision of the sympathetic system, that it is dependent upon the connection of that system with the spinal cord is a physiological fact which needs no particular comment.

There are thirty-one pairs of **spinal nerves**; each arises by two roots, an anterior motor root and a posterior sensory one; these unite, and the nerve then divides into two branches, an anterior and a posterior, both having motor and sensory fibers. The anterior nerves supply the body in front of the spinal column, also the limbs, and send communicating branches to the sympathetic ganglia. The posterior nerves supply the muscles and integument of the back, and contain both afferent and efferent fibers.

The **function of the spinal cord** is the "conduction of impulses," and the "origination of reflex action in response to stimuli," whereby an impulse may be transmitted through afferent fibers to a center in the spinal cord, and there transformed into an efferent impulse and conducted to the part of the body receiving its innervation from the nerve center thus operated upon. The spinal cord contains many of the most **important centers** of the nervous system, and which are capable of being excited reflexly; such as the spinal *vaso-motor* centers, *cardio-accelerator* center, *parturition* center, etc.; the action of the cells of the cord being independent of the will, and occurs before the mind is conscious of it. It is therefore within the power of the skillful osteopath to pro-

duce effects in almost any part of the body through the wonderful mechanism of this spinal key-board.

Although it is a well-established principle of neuro-physiology that the action of nerves can be influenced by **mechanical stimuli**, it has remained for the osteopath to demonstrate that it is entirely practical, and that it is more effectual to apply the stimulus to the nerve supplying the tissue or organ than to apply it directly to the structure involved. He has furthermore proven the physiological teaching that a sudden pressure over a nerve followed by immediate retraction will stimulate or excite the nerve to action; and on the other hand, a gentle steady pressure quiets or deadens the action, producing for a time the effect of *nerve-section*, *paralysis*, or *osteopathic desensitization*. It is not only obvious that there must be perfect continuity of nerve-force in order that any organ may receive a message to discharge a certain function, but proper innervation is an indispensable factor in the vitality of every tissue and organ. Coördination of the nerve-force of the body is no less essential, for with the nervous energy of one part of the body in a state of excitation as compared with the rest, there is excess of some function which makes unnecessary demands upon the vitality of the body at the expense of its delicate machinery, producing a result probably similar in a measure to that of an electrical apparatus charged beyond its capacity.

With a thorough knowledge of the various **nerve-centers**, and the innervation of the different tissues and organs, the osteopath is able to coördinate the nerve-force of the body. He can increase the nerve-current to almost any part of the being, and can quiet an excessive one as well. The efficacy and practicability of this theory has been satisfactorily

demonstrated in the treatment of ataxia, paralysis, anesthetic and hyperesthetic conditions, as well as in the regulation of the peristaltic action of the bowels, the regulation of the heart's action, controlling the caliber of the blood-vessels, and the relief and assistance so effectually rendered in parturition.

Preliminary Miscellanea.

RESEARCHES OF DR. ELMER D. BARBER.

The author was born in Oneida, N. Y., May 17, 1858, and when a mere boy arrived at the conclusion that the age of miracles was past, and that all results could be traced to a reasonable cause.

While in Jersey City, N. J., we met a gentleman who, without the use of drugs or surgical instruments,by manipulations which he could not explain, was curing hundreds of people in a public hall.

Then came Paul Castor, whose cures were equally marvelous and likewise inexplicable. We visited faith doctors and spiritualistic mediums and witnessed their results, but found the principle on which they worked shrouded in mystery.

We next heard of Dr. Andrew T. Still, who was effecting cure after cure in a marvelous manner, upon (as he claimed) scientific principles. We visited the old doctor, were convinced that he had discovered the fundamental principles on which were based the results accidentally reached by others, and entered his School of Osteopathy, from which we graduated March 2, 1895, with an average grade of 99 in Anatomy and Physiology and 100 in Osteopathy.

Immediately after graduation we removed to Baxter Springs, Kas., and engaged in the active practice of Osteopathy. It was at this period, when fresh from the school at Kirksville, Mo., with our pockets bursting with notes gath-

THE

AMERICAN SCHOOL OF OSTEOPATHY.

Grade in Anatomy 99

(Scale 100

"THE AMERICAN SCHOOL OF OSTEOPATHY teaches, and has for its object the keeping and maintaining a complete circuit of the forces of the Motor, Sensory and Sympathetic Nerves to and from the Brain and all the organs, tissues, blood and other vessels, the bowels and all parts, and the whole of the human system that pertain to nourishment, strength and growth of bone, the skin appendages and soft parts of the body."

"Health is the result of the harmonious action of the system when all parts are unobstructed by any cause, such as increased or diminished flow of the fluids of the arteries or veins or the nerve force, by partial or complete dislocation of bones, muscles, tissues, membranes or parts of the whole system. The object of Osteopathy is freedom of flow of all electric or other fluids, forces or substances pertaining to life."

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Grade in Osteopathy 100

DIPLOMA

Know all Men by these Presents, that Elmer D Barber

having attended a full course of Lectures on and Demonstrations of Osteopathy, and having, after due Examination, been found fully qualified to practice the Art in all its branches, is hereby conferred by me with the title DIPLOMATE IN OSTEOPATHY.

Dated and given at Kirksville, Adair County, Mo., this, the 2nd day of March Eighteen Hundred and Ninety Five

AMERICAN SCHOOL OF OSTEOPATHY KIRKSVILLE, MO. ADAIR CO.

A. T. Still, Discover
PRESIDENT AMERICAN SCHOOL OF OSTEOPATHY

A. E. Patterson
SECRETARY

ered eagerly from the lips of the discoverer of Osteopathy, that our small book, "Osteopathy, the New Science of Drugless Healing," was written. Since the publication of that volume, having studied very carefully all works that we could procure having any bearing upon this subject, besides treating and curing hundreds of patients osteopathically, we are led to believe that there is not so much that is new, except the name, but that Osteopathy is a combination of many movement-cures scientifically applied.

From a careful study of Gray and Landois, we find that Dr. Still has discovered no new nerve-centers; he has simply discovered a fact that has been overlooked by the ordinary physician: that a steady pressure over a given nerve-center will produce a certain result; while stimulating by manipulation over the same center produces an opposite result; and that by working upon these centers we can control the organic system.

He has, therefore, simply discovered a correct and scientific method of manipulation, whereby the osteopath can equalize the circulation, and, in fact, all the forces of the body—in very many cases, after all other methods have been tried and failed.

While it is our desire to give Dr. Still credit for any points which he has discovered, we must differ with him as to the true cause of the results reached by the Osteopath. While the good Doctor believes that nearly all diseases are caused by dislocated bones, nearly always finding them and thereby winning for himself the name of "Bone Doctor," in our practice we never find a great number of dislocations and by the same manipulation effect the same cures as Dr. Still. If a bone is really dislocated and has been in that condition for years, the dislocation can not be reduced; but if the

muscles are contracted, causing a stiff joint or depressing the ribs, they can be quickly relieved by manipulation, and the patient is easily led to believe that the bone was dislocated. While we do not doubt for an instant that our classmates are sincere in their belief that in catarrh, sore eyes, deafness, and other disease of the head, the atlas is dislocated, and that they cure these diseases by setting the atlas, we believe that twisting, pulling, and stretching the neck in a vain attempt to move the atlas stretches the muscles, thereby freeing the circulation and permitting Nature to assert herself. Be they right or wrong, our readers can cure almost any acute disease in the head, almost instantly, by gently pulling on the head and rotating it in all directions; and many chronic complaints by a continuation of the same method. We all agree upon the one great point, that man is a machine, and that nerve-centers have been discovered upon which a pressure of the hand will cause the heart to slow or quicken its action, from which we can regulate the action of the stomach, bowels, liver, pancreas, kidneys, and the diaphragm. The thousands of people snatched from the grave by an application of these never-failing principles are proof positive that at last the keynote has been struck; and a school established that can explain intelligently why certain manipulations produce certain results.

Viewing the brain, the cerebro-spinal cord and the nerves as an immense telegraph system (the brain acting not only as a great dynamo, generating the forces which control and move the body, but as headquarters, receiving and sending messages to all parts of the body; the slender nerves passing through, under, over, and between the hundreds of bones, muscles, arteries, veins, ligaments, and various organs), can you wonder that the wires are sometimes down, that the communication is occasionally cut off between headquarters and

some important office, or that paralysis is the result? Do you wonder that occasionally the wires are crossed, and that the message (possibly to the bowels, to discharge their load) is received by the kidneys, which promptly obey the order? The bowels having failed to respond to orders from head-quarters, a second message goes over the wires, and again the kidneys answer the summons; the result is kidney disease and constipation. While we cannot go directly to the nerves at fault, we can, by manipulations, which will be fully described under their proper head, stretch the contracted muscle that is obstructing the current; whereupon, if the case has not become chronic, the bowels will immediately resume their functions and the excited kidneys will cease to act so rapidly. In chronic cases it usually takes Nature from two to six weeks to assert herself. In the nervous system, as in the telegraphic, the current must not be obstructed.

The massage treatment effects many remarkable cures by moving the flesh and muscles in all possible directions over the entire body. They unwittingly and unavoidably, if they are very thorough, free the right spot, establishing the circuit, thus permitting Nature to assert herself.

Another very important part in this complicated machine is the systemic, pulmonary, and portal circulation: the arteries are cylindrical vessels, conveying the blood through this network of nerves and muscles to all parts of the body; the veins gathering up and returning it to the never-tiring heart, pumping steadily throughout a lifetime, driving the blood to the most remote parts of the system and forcing it to return. Is it to be wondered at that occasionally a muscle contracts, after a hard day's work or exposure to the cold, possibly obstructing some little river of blood on its journey to nourish a given part? Do you wonder that the part in question weakens from lack of nourishment and fails to

perform its allotted task? As it is the blood that must convey all substances of nourishment to the different parts, is it a wonder that the medicine never arrives at its destination? Should a large artery be obstructed in a similar manner, would it be surprising if the heart, working against heavy odds, trying to pump the blood past the obstruction, in time felt the pressure? in which case heart disease would be the result. Should the contraction be in the thigh, obstructing the femoral artery, we have cold feet and limbs on one side of the obstruction, and heart disease on the other. If the veins returning the blood are obstructed in the same region, we may have either dropsy, inflammatory rheumatism, erysipelas, eczema, or varicose veins, caused by the stagnant, pent-up blood, on one side, and heart disease on the other.

Having briefly referred to the bones that support, the nerves that control, and the blood that supplies, let us dwell for a moment on the muscles that move and propel this wonderful living machine. As the only power muscles have is in contraction, they must be arranged in such a position and so attached to the bone as to pull from any direction in which it may be necessary to move a given part. Receiving as they do not only their orders to act, but their motor power, from that great dynamo the brain, they may be justly compared to so many electric cars. One car may be larger and stronger than another, but, deprived of the current from that slender wire, which of itself is nothing, neither can move from its position. Is this not indeed a delicate and complicated piece of machinery, the nerves and fluids of the body moving unobstructed through the hundreds of rapidly contracting and relaxing muscles? We state most emphatically that the true cause of many diseases may be traced to some muscle which has contracted and for some unaccountable reason has failed to relax, thus interfering with all the forces of life.

It is by working on these principles, which we have briefly sketched, that we achieve results bordering on the miraculous; it is by working on these principles that we draw patients and students from the length and breadth of our land; it is by working on these same principles, fully explained and illustrated in the following pages, that any family can attain some very remarkable results.

OSTEOPATHY IN A NUTSHELL.

First: Using the arms and limbs as levers, stretching all muscles to which they give attachment and moving the flesh and muscles from side to side the entire length of the limb stretches and softens those muscles, thus permitting a free flow of the fluids and nerve forces to these parts, a stoppage of which means disease in some of its varied forms. One thorough treatment of an arm or leg will often instantly cure, and almost always relieve an acute case of any nature in the extremities, and a very few treatments, administered one each day, will *cure* any acute case. Chronic cases can be usually cured by a continuation of the treatment, every other day, for from two to six weeks, even after all other methods have been tried and failed.

Second: Move and soften, by deep manipulations and by rotating the spinal column as much as possible, all the muscles of the spine. The spinal cord is the great trunk from which springs the spinal nerves, and is contained in, and protected by the upper three-fourths of the spinal column, which is very flexible, consisting of many separate bones, between which is placed the elastic intravertebral cartilage. As the spinal nerves which control the different muscles, organs, etc., escape from the spinal cord through openings or foramina in the different sections of the vertebral column,

it will be readily understood that the numerous muscles which are attached to and move the spine must always be very soft and elastic; that contraction here means interference with nerves that may control some distant part, and a consequent partial or complete paralysis of that part, until by manipulation or accidentally the muscle at fault is relaxed, thus turning on the current from that great dynamo the brain, and once more the machine moves forward.

Third: Using the head as a lever, move and stretch all the muscles of the neck. This treatment frees the circulation to the head, an obstruction of which is the true cause of catarrh, weak eyes, deafness, roaring in the head, dizziness, and, in fact, almost all disorders of the head. Many acute cases can be instantly cured, while those that have become chronic require a much longer course of treatment.

Fourth: Bending the patient backward, with the knee pressing on the back just below the last rib, will usually cure any case of looseness of the bowels, from common diarrhea to bloody flux, and a continuation of the treatment will cure any case of chronic diarrhea.

Fifth: A nerve-center has been discovered at the base of the brain, termed **vaso-motor**, which can be reached by a pressure on the back of the neck over the upper cervicals. A pressure at this point continued from three to five minutes will slow the action of the heart, often reducing the pulse from 100 to a normal condition in a few minutes' time. It is from this center that, without the use of drugs, we control fevers, curing any fever that is curable in one-half the time that the same work can be done with medicine.

Sixth: In all cases where the general system seems to be affected, give a **general treatment**, thus freeing and permitting all the forces of the machine to act.

Seventh: Never **treat** an **acute** case oftener than once in three hours, or a **chronic** case oftener than once a day.

Eighth: It is never safe to use this treatment during pregnancy, except in diseases of the head or extremities, and in those with caution. To draw the arms high and strongly above the head, at the same instant pressing on the spine below the last dorsal vertebra, or to flex the limbs strongly against the chest, during this period, is dangerous in the extreme.

Ninth: While this treatment will improve the action and remove the pain in stiff, chronic dislocated joints, the dislocation can never be reduced. We have seen it tried, and tried it ourselves a great many times, meeting with no success where there was really a dislocation of long standing. There are a great many cases where the patient is suffering from rheumatism or a similar trouble in which the muscles are contracted, and he can easily be led to believe that a dislocation does really exist, and that the operator who simply stretches the muscles has reduced the imaginary dislocation. This we believe also to be the case regarding the many dislocated ribs found by the average "bone doctor." While they may be correct, we have demonstrated the fact, times without number, that drawing the arms high above the head, at the same instant pressing at almost any point with the knee immediately below the scapulæ, thus stretching the muscles of the chest and springing the ribs forward, will instantly cure sharp acute pains in the sides or chest and certain cases of heart disease, while a continuation of the same treatment will cure asthma or consumption in its early stages. It is on this vital point that we differed in class as well as in practice with the other members of our profession. While they trace most effects to dislocated bones, and never fail to effect a cure if it is within the bounds of reason, we effect equally remarkable cures in many instances by simply stretching

and manipulating the muscles, thus freeing the circulation. While we do not believe it possible that to hide his secrets a "bone doctor" would deceive the public, we believe that in a vain attempt to set the bones in the manner prescribed by Dr. Still the circulation is freed and the patient recovers.

Tenth: We have recently discovered that shaking or vibration administered by the hand quickens, stimulates, and strengthens. In reducing inflammation and congestion it diminishes pain, and if applied over certain nerve-centers, it increases the secretion of the glands.

HOW TO APPLY OSTEOPATHY.

First: While it is very necessary to have a leather upholstered table, 2 feet 2 inches high, 2 feet wide, and 6 feet long, for office work, a cheap pine table of the same dimensions, over which is spread a bed-quilt, with one or two pillows, will answer the same purpose at the home of chronic invalids who cannot reach the office. It is always advisable, if possible, to have a table, not only being very much easier and more convenient for the operator, but being a firm support, the patient can be placed and retained in the most desirable position for successful treatment. In acute cases, however, we are often obliged to treat the patient upon the bed, a couch, chair, and sometimes upon the floor, usually getting very good results.

Second: In treating a patient osteopathically, while the treatment can be applied through a reasonable amount of clothing, enough should be removed to enable the operator to administer the treatment in a thorough and intelligent manner.

Third: It is always advisable for a lady to remove her

clothing, putting on a loose robe, which every osteopath should have in his office for this purpose.

Fourth: It is entirely unnecessary, except in rare instances, to expose any portion of the patient's person, except the spine in making first examination.

Fifth: All manipulations should be given in a slow, gentle, thorough, careful manner, thus giving the muscles of the patient an opportunity to relax. The patient should always be cautioned or instructed to permit the muscles to relax as much as possible. The object of the manipulation being to stretch the muscles in any manner that will best tend to free the circulation and remove the pressure that may be obstructing the free and uninterrupted flow of the nerve-wave to any given point.

Sixth: A thorough general treatment tends to stimulate and equalize all forces of the entire system.

Seventh: A pressure upon a nerve-center, to control a certain organ, should not be continued over two to four minutes, and should not be administered oftener than once in four hours.

Eighth: Acute cases should be treated each day, the treatment occupying, according to the case, from ten to thirty minutes. Great care must be exercised in discriminating between patients who can stand a light or a strong treatment. In no case should the treatment be so strong or long continued as to exhaust the patient; on the contrary, the patient should feel relieved and refreshed after each treatment.

Ninth: In chronic cases the first treatment should be very light, each treatment growing stronger until the operator has determined just how strong a treatment will produce the best results. Most chronic cases should be treated

every other day, from ten to thirty minutes, according to the disease and number of different manipulations employed. In most chronic cases we should see some change for the better in a very few days.

Tenth: **Vibration.**—We have recently discovered that vibration administered by the hand quickens, stimulates, strengthens, and assists very materially in reducing congestion and inflammation, and is very beneficial in many cases, in addition to the regular osteopathic treatment; in fact, we have cured cases of stammering, asthma, and various other troubles in which we failed to get results by the regular osteopathic manipulations. Vibration should be applied with a loose wrist-joint, the whole or a part of the palmar surface of the hand or fingers being used. The movements in the wrist-joint are abduction and adduction, while the movements of the elbow are flexion and extension; the hand lies immovable upon the part of the body on which it rests. Through a quick succession of individual movements, with a perfectly loose wrist-joint the vibrations are produced. Flexion and extension of the wrist must be carefully guarded against, as this would produce pressure, which would be injurious in many localities. In fact, vibration correctly applied is such a wonderful instrument in relieving pain that we cannot impress this one point too forcibly upon the minds of our readers: *Always vibrate with a loose wrist-joint, using no greater pressure than the weight of the hand,* as the entire benefit to be derived from the treatment is lost if this point is neglected.

Eleventh: In applying osteopathic treatment in the manipulation of muscles, the operator should avoid using the end of the fingers as much as possible, as much stronger

and better treatment can be given by using the palmar surface of the fingers or hand.

Twelfth: After three years of active practice, we desire to correct a number of erroneous statements which appear in our former book written immediately after graduation, and from notes taken at the A. T. Still Infirmary. While all treatments given in that work are substantially correct as laid down by the discoverer of Osteopathy, we find that where, in acute cases, we used the word "*instantly,*" it should have been in most cases "*a few hours,*" and that in chronic cases, while we usually get immediate results, about double the time specified is generally required to effect the *cure.*

HOW TO MAKE THE EXAMINATION.

So much depends, from an osteopathic standpoint, upon the human framework being correctly adjusted, that in all cases where the nature of the disease does not render the cause apparent, the spine is first examined.

First: Place the patient upon the face, a pillow under the breast and chin, the nose and mouth just far enough above the pillow to enable the patient to breath as he lies face downward, with the head and neck perfectly straight; let the arms hang down over the sides of the table. In this position the spine should be perfectly straight laterally, and any deviation from the correct line is easily detected, and must be corrected before we can hope to remove the cause of the disease, and thereby effect a cure. In this position, an anterior or posterior curvature is also easily discovered.

Second: With the patient lying in this position, examine the ribs. If in a normal position, they will present a flat surface to the hand passed over them, and should be

about an equal distance apart. If an edge is discovered, the rib is slightly turned; the space is unequal between it and the adjoining rib, and its inner edge is pressing upon some portion of the anatomy which it is supposed to protect; being turned slightly in its articulation, it can hardly fail to press upon some nerve or artery, which may control or nourish a distant part. In other instances we discover the floating ribs turned under or partially under the rib above. It is hardly necessary to state that with the framework in this condition we could not hope to restore the patient to health by the use of drugs or in any other manner, except, by a skillful manipulation, to adjust the ribs to their normal position. In the practice of Osteopathy very many of these cases are found, and chronic troubles cured which for years have baffled the medical fraternity. In making this examination the patient should lie in the position named, for if the head is turned slightly, the cervicals are out of line; if an arm is thrown above the head, the ribs upon that side are drawn slightly upward and turned partially upon their edges. It is thus that a dishonest osteopath always finds dislocations, shows them to his patient and his friends who may be present, and reduces the dislocation in a moment without the slightest apparent effort, and so skillfully as to give no pain. In these imaginary dislocations, by freeing and equalizing the circulation, the patient is usually made to recover quite rapidly, and never for an instant imagines that recovery is not due to the reduction of a dislocation. If the vertebra or rib is really partially dislocated, and has been in this condition for any great length of time, it will take several treatments to return it to normal position, and the operation will not be entirely painless. The different dislocations of other joints are too familiar to

the average physician to require mention in this connection.

Third: With the patient in the same position, beginning at the first cervical, with the first and second fingers of the right hand upon each side of the spine, move the hand downward slowly and carefully the entire length of the spinal column. We are very liable to discover a spot, possibly no larger than the end of the finger, much warmer or colder than the surrounding surface, in which case a contracted muscle has obstructed the circulation over or to a certain nerve-center; and we have ascertained the cause of the difficulty with that part of the anatomy controlled by the nerve involved.

Fourth: Beginning again at the cervicals, and working downward a little deeper, we often discover muscles which from their knotted, cord-like appearance lead us to believe that they are contracted, interfering with the machinery of life.

Fifth: In making this examination of the spine we often discover places very tender to the touch of which the patient was entirely ignorant, and upon which a slight pressure will sometimes cause the patient great pain. Such a condition over an important nerve-center is the cause of many diseases, which we cannot hope to relieve without first removing the cause of the congested condition in the spine.

Sixth: Place the patient on the back, the body, head, and limbs perfectly straight, the arms at the sides, with all muscles relaxed. Examine the ribs once more to discover, if possible, any abnormality. Carefully examine the neck in all diseases of the head or organic troubles. A contracted muscle pressing upon the pneumogastric nerve, which has so much to do in controlling the viscera, might

cause a multitude of evils. While it is well to examine in the usual manner the liver, stomach, spleen, bowels, kidneys, bladder, and other organs, the skilled osteopath has diagnosed the case before leaving the spinal column, and simply makes further examinations to satisfy himself that his conclusions are correct.

Seventh: Always examine the pulse to ascertain the action of the heart and the condition of the circulation.

Eighth: A skilled osteopath seldom looks at the tongue, arriving at his diagnosis almost entirely through the examination of the spine. Patients often wonder how it is possible to discover so readily, without removing the clothing, tender spots, of which they knew nothing, along the spinal column. In the majority of instances there is something in the countenance, the gait, or carriage of the chronic invalid that tells the story to one familiar with disease. Reasoning from effect to cause, knowing the origin of the nerve that controls the diseased organ or limb, it is not difficult to detect tender places upon the spinal column, neither is it difficult to cure the disease, having located and removed the cause.

A FEW IMPORTANT QUESTIONS AND ANSWERS.

1. What is Osteopathy?

The human system is a machine capable of running for an indefinite length of time, unless interfered with by accident, dislocation, or contraction of the muscles, obstructing the free nerve-force, the free circulation of the blood, or other fluids of the body. Osteopathy, based upon a thorough knowledge of anatomy and physiology, enables the operator to reduce dislocations and to so manipulate the muscles at

fault as to free the circulation; harmony being thus restored, health is the result.

2. Upon what does an intelligent application of its principles depend?

Upon a complete knowledge of Osteopathy, Anatomy, and Physiology.

3. How may osteopathic treatment aid in the production and maintenance of healthy tissue?

(1) By *reducing dislocations*, thereby freeing nerves or arteries that control or nourish certain parts of the anatomy; (2) by *stimulating or desensitizing* certain *nerve-centers*, thereby controlling the action of the heart, stomach, bowels, kidneys, and other organs; (3) by *manipulating the muscles*, thereby freeing the entire circulation.

4. Give an example of an impaired function caused by an abnormal skeleton, and state how the bones may be used as levers in correcting the same.

Constipation, which is sometimes caused by the seventh or eighth rib being turned in such a manner as to obstruct the free nerve-wave over the great splanchnic, would be a happy illustration. In the nervous system, as in the telegraphic, we must have a perfect circuit between headquarters and all branch offices. In this instance the brain is headquarters, and the bowels are the branch office, while the great splanchnic and right pneumogastric nerves form the circuit, which, being obstructed where the great splanchnic leaves the spinal column, affects the peristaltic action, causing the bowels to act in a weak and halting manner.

Using the pectoralis major (which attaches to the seven or eight upper ribs and inserts into the external bicipital ridge of the humerus) and the arm as a lever, placing the thumb upon the angle of the rib at fault, by drawing the

arm high above the head as the patient inhales, pressing hard upon the angle of the rib as the arm is lowered with a backward motion, the rib is thrown in its proper articulation, the circuit is established, and health is the result.

5. Give an example of some **perverted function** in some organ of the body, and the osteopathic treatment for the same.

Many cases of **heart disease** are caused by a contraction of the adductor muscles of the thigh, obstructing the femoral artery or vein. Should the pressure be sufficient to obstruct the artery, we have **atrophy** of the limb on the one side, while the heart, overworked in trying to force the blood past the obstruction, soon feels the strain. In case the vein, and not the artery, is affected, the blood is pumped into the limb and failing to properly escape, the anastomoses around the large joints become engorged; and perhaps we have a case of **inflammatory rheumatism** on one side of the obstruction, and **heart disease** on the other. In either case flex the limb against the abdomen, abducting the knee strongly and adducting the foot as the limb is extended, thus stretching the adductors, thereby freeing the circulation. Many cases of heart disease and accompanying complications have been cured in this simple manner.

6. What general principles are involved in the osteopathic treatment of **diseases** of the **respiratory organs**, such as **consumption, asthma**, and **bronchitis**?

In diseases of the respiratory organs the intercostal and other muscles of the thorax are usually found contracted in such a manner as to reduce its dimensions, thus not only interfering with deep and full respiration, but with the nerve and blood-supply of the pleuræ, bronchi, and lungs; using the arms, which are attached to the pectoralis major

and minor, as levers, drawing them high above the head, pressing at the same instant upon the angles of the ribs, as the patient inhales, enables the operator to expand the chest, thereby freeing the circulation to these organs. Immediate relief is usually the result of the first treatment.

7. What are the four great principles that should be constantly kept in mind in all osteopathic practice?

(1) The framework must be perfectly adjusted. (2) The circulation must not be obstructed. (3) We must have a free and uninterrupted circuit between the brain and each muscle and organ of the body. (4) By stimulating or desensitizing certain nerve-centers, the action of the heart, stomach, liver, bowels, kidneys, and other organs may be usually controlled.

8. How does the osteopath control fever?

By light general treatment, and holding the vaso-motor, thereby controlling the action of the heart.

9. How often should an osteopathic treatment be given?

In acute cases a gentle, careful treatment may be given every six hours; usually once a day is sufficient. The vaso-motor may be held in fevers once in four hours; in most chronic cases every other day is sufficient. It is much better not to treat quite often enough or long enough than to over-do matters and exhaust the patient.

10. How long a time is usually required to give an osteopathic treatment?

This depends so much upon the case and condition that it must be left to the judgment of the operator; from ten to thirty minutes is usually sufficient.

11. Has a patient ever been injured by Osteopathy?

While many thousands have been cured or benefited

by this treatment, we have never heard of a single instance in which the patient was injured. When we take into consideration the fact that nearly all cases treated by the osteopath are chronic, in which nearly every other known method of treatment has been tried and failed, the results obtained by osteopathic treatment are indeed surprising.

MAN AS A MACHINE.

The entire skeleton in the adult consists of two hundred distinct bones, articulating with each other in perfect harmony. Some are arranged to allow the utmost freedom of motion, others are limited, while others are fixed and immovable. On the bones are many prominences for the attachment of muscles and ligaments and many openings (or foramina) for the entrance of nutrient vessels.

The thorax is a bony cage formed by the ribs, the dorsal vertebræ, and the sternum; it contains the principal organs of respiration and circulation.

Should the **muscles of the chest contract**, as is often the case, springing the ribs, which are the most elastic bones in the body, lessening the dimensions of the thorax, we have **asthma, consumption**, or **heart disease**; while a partial dislocation of the lower ribs, caused by contracting muscles, causes **enlargement of the spleen, stomach trouble**, and various other diseases, which can readily be cured by manipulations.

There are over five hundred **muscles** in the human body connected with the bones, cartilages, and skin, either directly or through the intervention of fibrous structures called tendons or aponeuroses. Muscles differ much in size; the gastrocnemius forms the chief bulk of the back of the leg,

and the fibers of the sartorius are nearly two feet in length, while the stapedius, a small muscle of the internal ear, weighs about a grain, and its fibers are less than two lines in length.

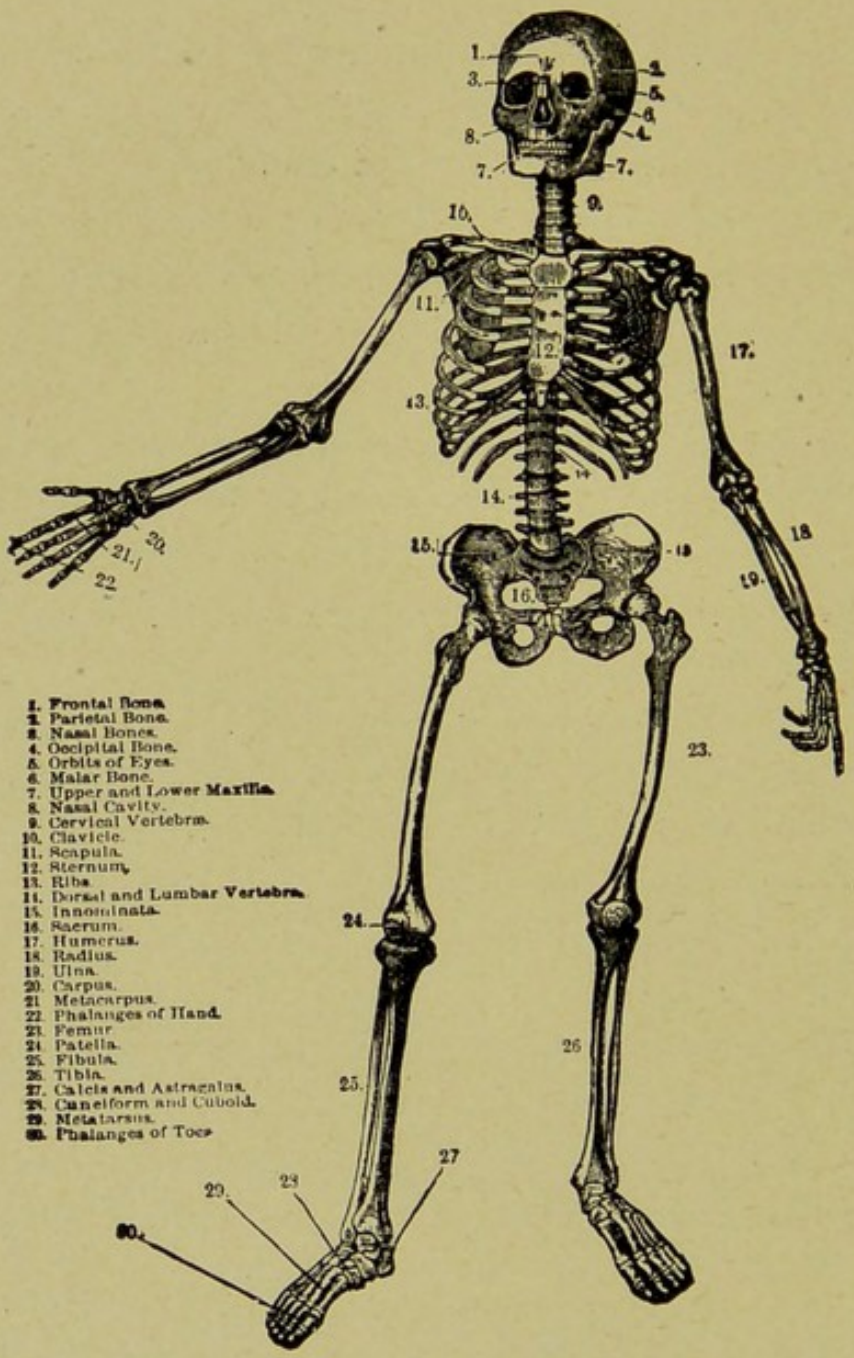
Now, having briefly mentioned the bones and the muscles, we will touch upon the arteries that nourish this most interesting and intricate piece of machinery.

The course taken by the blood on its way to the various parts of the body is called the *systemic* circulation, on acount of its having to make repeatedly the circuit of vessels leading to and from the heart.

The arteries are small cylindrical muscular vessels, and might be compared to rivers throwing a branch to each muscle in their course, while the veins gather up and return the venous blood to the heart, where it is pumped through the pulmonary arteries to the lungs.

It will now be readily understood, as the heart is a double pump, driving the blood through the arteries and veins, that the contraction of muscles throwing a pressure on arteries or veins which pass through, under, or between them would certainly affect the heart and necessarily derange the entire system. We trust that our readers will note these points carefully, as we expect to prove that many cases of heart disease, rheumatism, dropsy, neuralgia, tumor, goiter, and cancer are caused by contracted muscles and are readily cured by a system of treatment which removes the cause and gives Nature a chance to act.

To illustrate more fully, let us compare the systemic circulation to an irrigating system. Through your fields run innumerable ditches; one is obstructed by a fallen tree, causing the water to back up, seeking some other channel or a weak place in the bank to escape. What is the result?



CUT 1.—The Human Skeleton.

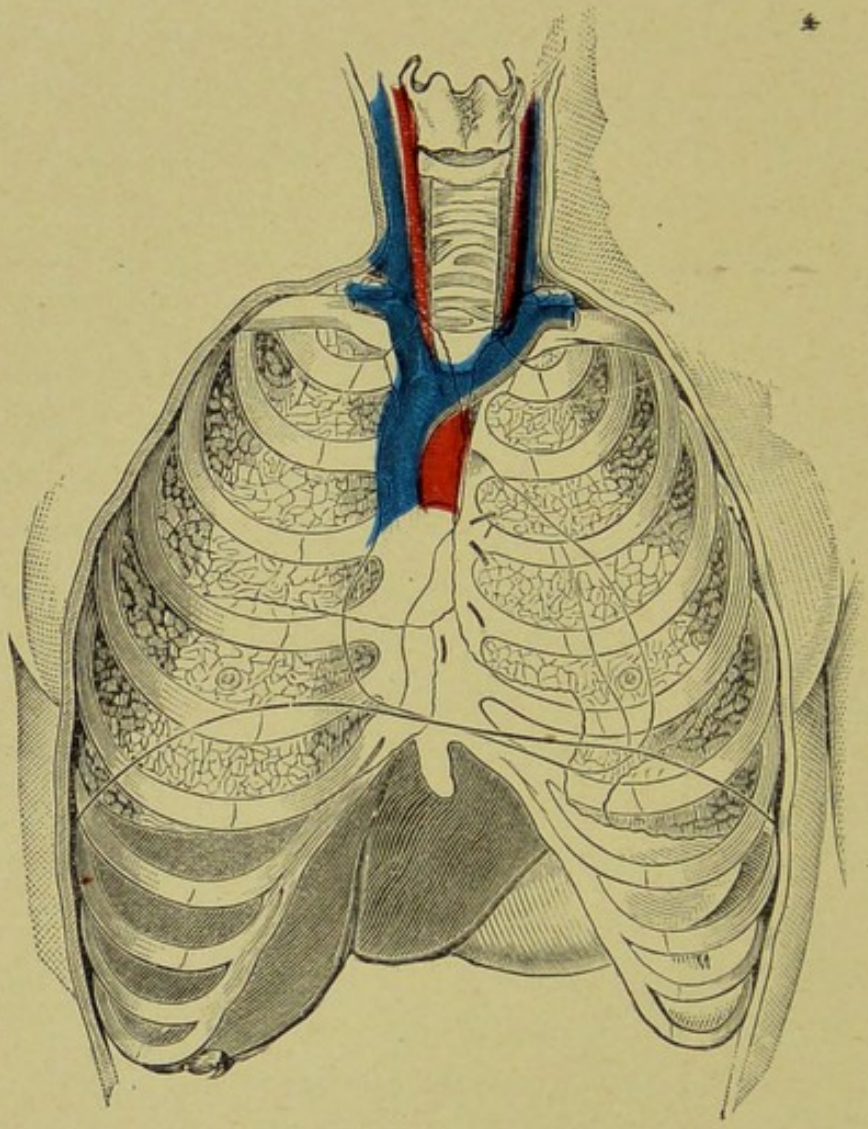
Bones of the Human Skeleton.

- **THE HEAD** (22 bones.)
  - **CRANIUM** (8 bones.)
    - Frontal (forehead).
    - Two Parietal (sides).
    - Two Temporal (sides and base).
    - Sphenoid (anterior base of the skull).
    - Ethmoid (sieve-like bone at root of nose)
    - Occipital (back and base of skull).
  - **FACE** (14 bones.)
    - Two Superior Maxillary (upper jaw).
    - Inferior Maxillary (lower jaw).
    - Two Malar (cheeks)
    - Two Lachrymal (in orbit of eye).
    - Two Turbinated (on sides of nasal fossæ).
    - Two Nasal (bridge of nose).
    - Vomer (bone between the nostrils).
    - Two Palate (back part of nasal fossæ).
- **THE TRUNK** (54 bones.)
  - **SPINAL COLUMN** (24 bones.)
    - Seven Cervical Vertebræ.
    - Twelve Dorsal Vertebræ.
    - Five Lumbar Vertebræ.
  - **RIBS** (24 bones)
    - Fourteen True Ribs.
    - Ten False Ribs.
  - **STERNUM** (breast bone).
  - **HYOID** (bone at root of tongue).
  - **PELVIS** (4 bones.)
    - Two Innominata.
    - Sacrum.
    - Coccyx.
- **THE LIMBS** (124 bones.)
  - **UPPER LIMBS** (64 bones.)
    - **SHOULDER**
      - Scapula.
      - Clavicle.
    - **ARM**
      - Humerus.
      - Ulna and Radius.
    - **HAND**
      - Eight Carpal Bones.
      - Five Metacarpal Bones.
      - Fourteen Phalanges.
  - **LOWER LIMBS** (60 bones.)
    - **LEG**
      - Femur.
      - Patella.
      - Tibia and Fibula.
    - **FOOT**
      - Seven Tarsal Bones.
      - Five Metatarsal Bones.
      - Fourteen Phalanges.

Too much water in one end and too little in the other. Thus it is that when confronted with **heart disease** you should immediately ascertain if the patient is troubled with cold extremities; such being the case, using the limbs as levers, stretch the muscles, thus freeing the arteries from this undue pressure, permitting the blood to pass down to and warm the extremities, at the same time relieving the heart.

We will now pass to the **nerves**, which not only control the action of the muscles and various organs, but also control the caliber of the arteries, thus regulating (when not interfered with by slight dislocations of bone or contraction of muscles) with the utmost precision the entire systemic, pulmonary, and portal circulation. The central part of the nervous system, or cerebro-spinal axis, consists of the spinal cord (medulla spinalis), the bulb (medulla oblongata), and the brain; the spinal cord being the great bond of connection between the brain and the majority of the peripheral nerves. As most of the nerves originate in the spinal cord, and as the cord is in direct communication with, and might be considered part of the brain, it will be readily understood that a pressure on any of these nerves, interrupting communication between the brain and some distant part, will cause paralysis of the part controlled by the nerve involved.

While we have touched but briefly on the anatomy and physiology of the human body, we trust we have proven to our readers that man is a machine, and laid the foundation for a thorough understanding of our method of treating diseases by manipulation and without the use of drugs or surgical instruments.



CUT 2.—The Human Thorax and Contents.

Diseases in General.

THE LUNGS.

The Lungs are the two principal organs of respiration, placed one on each side of the chest, separated from each other by the heart and other contents of the mediastinum. Each lung is divided into two lobes, an upper and lower, by a long and deep fissure, which extends from the upper part of the posterior border of the organ, about three inches from its apex, downward and forward to the lower part of the anterior border. This fissure penetrates nearly to the root. In the right lung the upper lobe is partially subdivided by a second and shorter fissure, which extends from the middle of the preceding, forward and slightly upward to the anterior margin, making a small triangular portion, the middle lobe.

The right lung is larger and heavier than the left; it is broader, owing to the inclination of the heart to the left side; in consequence of the diaphragm rising higher on the right side to accommodate the liver, it is also shorter by an inch. The weight of the lungs is about forty-two ounces, the right lung being two ounces heavier than the left; but much variation is met with, according to the amount of blood or serous fluid they may contain. The lungs are heavier in the male than in the female.

Each lung is conical in shape, and presents an Apex, Base, two Borders, and two Surfaces for examination.

Apex.—The apex extends into the root of the neck about

an inch or an inch and a half above the level of the first rib, and forms a tapering cone.

Base.—The base is concave, broad, and rests upon the convex surface of the diaphragm. Its circumference is thin and fits into the space between the lower ribs and the costal attachment of the diaphragm, extending lower down externally and behind than in front.

Borders.—The **anterior** border is sharp and thin, overlapping the front of the pericardium. The **posterior** border is broad and rounded, and is received into the deep concavity on either side of the spinal column. It is much longer than the anterior border and projects between the ribs and the diaphragm.

Surfaces.—The surface is smooth, shining, and marked out in numerous polyhedral spaces, which indicate the lobules of the organ. The area of each of these spaces is crossed by numerous lighter lines. The **inner** surface is concave; in front presenting a depression corresponding to the convex surface of the pericardium; and behind a deep fissure, which gives attachment to the root of the lung. The thoracic or **external** surface is smooth and convex; corresponding to the form of the cavity of the chest, being deeper behind than in front.

Root.—A little above the middle and inner surface of each lung and nearer its posterior than its anterior border is its root, by which the lung is connected to the heart and trachea. The root is formed by the bronchial tube, pulmonary artery, pulmonary vein, the bronchial arteries and veins, the pulmonary plexus of nerves, lymphatics, bronchial glands, and areolar tissue, all of which are enclosed by a reflexion of the pleura. The root of the right lung lies behind the superior vena cava and the ascending portion of

the aorta, and below the vena azygos major. The root of the left lung passes beneath the arch of the aorta in front of the descending aorta. The phrenic nerve and the anterior pulmonary plexus lie in front of each, and the pneumogastric and posterior pulmonary plexus behind.

Substance.—The substance of the lung is of a light, porous, spongy texture; it floats in water and crepitates when handled, owing to the presence of air in the tissue; it is very elastic, hence the collapsed state of these organs when they are removed from the cavity of the thorax.

Cells.—The air-cells are small, polyhedral recesses, composed of a fibrillated connective tissue, and surrounded by a few involuntary muscular and elastic fibers. They can be plainly seen on the surface of the lung, and vary from 1-200 to 1-70 of an inch in diameter.

Tubes.—The bronchus, upon entering the substance of the lung, divides and subdivides throughout the entire organ; sometimes three branches arise together, and occasionally small lateral branches are given off from the sides of a larger. Each of the smaller subdivisions of the bronchi enters a pulmonary lobule, and is termed a lobular bronchial tube or bronchiole. Its walls now begin to present irregular dilatations, air-cells, at first sparingly and on the one side of the tube only, but as it proceeds onward, these dilatations become more numerous and surround the tube on all sides, so that it loses its cylindrical character.

Blood-Vessels.—The **pulmonary artery** conveys the venous blood to the lungs; it divides into branches, which accompany the bronchial tubes, and terminate in a dense capillary network upon the walls of the intercellular passages and air-cells. In the lung the branches of the pulmonary artery

are usually above and behind the bronchial tube; the vein below and in front.

The **pulmonary capillaries** form plexuses, which lie immediately beneath the mucous membranes in the walls and septa of the air-cells and of the infundibula. In the septa between the air-cells the capillary network forms a single layer. The capillaries form a very minute network, the meshes of which are smaller than the air-cells themselves; their walls are also exceedingly thin; the arteries of neighboring lobules are distinct from each other and do not anastomose, whereas the corresponding venous anastomoses are exceedingly fine.

The radicles of the **pulmonary veins** commence in the pulmonary capillaries and coalesce into larger branches, which accompany the arteries and return the oxygenated blood to the left auricle of the heart. The radicles come together in the septa between the infundibula, entirely separate from the small arterial ramifications. Those which are near the surface of the lungs have an undivided course for some distance, and then either unite with some deeper lying vein, or form with their companions a wide-meshed superficial plexus.

The **bronchial arteries** supply blood for the nutrition of the lung, and are derived from the thoracic aorta, accompanying the bronchial tubes, and are distributed to the bronchial glands and upon the walls of the larger bronchial tubes and pulmonary vessels. Those supplying the bronchial tubes form the capillary plexus in the muscular coat, from which branches are given off to form a second plexus in the mucous coat. This plexus in the lobular bronchioles is continued with that of the pulmonary artery, and the blood which the bronchial artery brings is thus carried back by the

pulmonary vein. Others are distributed in the interlobular areolar tissue, and terminate partly in the deep and partly in the superficial bronchial veins. Some ramify upon the surface of the lung, beneath the pleura, where they form a capillary network.

The **bronchial vein** is formed at the root of the lung, receiving superficial and deep veins corresponding to the branches of the bronchial artery. It does not, however, receive all the blood supplied by the artery, as some of it passes into the pulmonary vein. It terminates on the right side in the vena azygos major, and on the left side in the superior intercostal or left upper azygos vein. Some authorities state that in other parts of the lung than in the lobular bronchioles, bronchial veins, even those coming from the larger bronchial tubes, join more or less freely with pulmonary veins. The intercostal arteries give small branches to the surface of the lungs by way of the ligamentum latum pulmonis.

The **lymphatics** consist of a **superficial** and **deep** set; they terminate at the root of the lung in the bronchial glands.

Nerves.—The nerve-supply of the lungs is from the anterior and posterior pulmonary plexus, formed chiefly by branches from the sympathetic and pneumogastric. The filaments from these plexuses accompany the bronchial tubes upon which they are lost. Small ganglia are found upon these nerves.

EXPLANATORY.

As many of our readers are unfamiliar with anatomy and physiology, we have followed Gray quite closely and have entered rather deeply into the anatomy of the organs of respiration, for several very important reasons. The most

important of which is to call attention to the immense and complicated blood-supply of the lungs, and the consequent importance of a perfect and unobstructed circulation. Another very important point that we discover by referring to the anatomy is the fact that the lungs are controlled by nerves from the anterior and posterior pulmonary plexus, formed chiefly by branches from the sympathetic and pneumogastric nerves. These nerves are affected either by a pressure or stimulation in the neck, or in the spine at about the fifth dorsal

In any lung trouble of a serious nature, a pressure at the last named point causes the patient to cough; the spine is also usually very tender in this region. Contracted muscles are not only obstructing the circulation, causing congestion, but their pressure upon nerves which control the lung causes paroxysms of coughing. Very serious cases of lung troubles are often cured by simply manipulating and freeing the muscles of the spine from the first to the tenth dorsal.

In the **treatment of any and all diseases of the organs of respiration**, the osteopath has three objects in view, which he must accomplish before he can hope to attain results:

(1) *Expansion of the chest.*

(2) *Freeing the entire blood-supply* to and through the affected parts.

(3) *Freeing and equalizing the nerve-wave.*

It is absolutely impossible to lay down a line of treatment that will be applicable in all the complications arising in different cases; hence a great deal will depend on the operator constantly keeping these points in mind, and applying the treatment which seems best adapted to suit the case.

The osteopath cares very little for *names*, simply deal-

Cut 3.—Vibration.

ing with *conditions* as they arise, seeking by a skillful manipulation to remove the cause.

By *using the arms as levers* we can expand the chest.

By *vibration and a skillful manipulation of the muscles* we can equalize the circulation.

By a *pressure upon the vaso-motor center* in the upper cervical region we can control fever.

Acting upon the above principles, and applying the treatment as given for acute, chronic, or capillary bronchitis, asthma, or consumption, as the similarity of the case to either of the above diseases would indicate, or by a combination of any of these treatments, as the judgment of the operator would dictate, we can hope either to relieve or cure a very large per cent of the diseases of the respiratory organs.

Diseases of the Bronchi, Lungs, and Pleuræ.

ASTHMA.

(Paroxysmal dyspnea, with oppression.)

SYMPTOMS.

Recurrent and temporary difficulty in breathing, accompanied by a wheezing sound and a sense of constriction in the throat, with cough and expectoration. Authors distinguish two varieties: dry convulsive or nervous, and humid or common. In the first variety the attacks are sudden and violent and of short duration, the sense of constriction is hard, dry, and spasmodic, the cough slight, and expectoration scanty and only appearing toward the end of the paroxysm. In the second variety the paroxysm is gradual and protracted, the constriction heavy, laborious, and humid, the cough violent, and expectoration commences early, and is at first scanty and viscid, but afterward copious, affording great relief. In many cases the attack is in the night, and most frequently an hour or two after midnight.

CAUSE.

Asthma, pronounced incurable by the medical fraternity, can be relieved, and inmost cases cured, by an application of the principles laid down in the following pages.

The thorax is a bony cage, formed by the ribs, dorsal vertebræ, and sternum, containing and protecting the principal organs of circulation and respiration. The ribs are not only

very elastic, but, being connected with the sternum by costo-cartilage and with the dorsal vertebræ by ligaments, have limited motion. Thus it will be seen that they are easily affected by accident or contraction of the muscles. In most cases of asthma a slight depression will be noticed over the second, third, and fourth ribs on the left side, about two inches to the left of the median line, while the cartilaginous portion of the corresponding ribs on the right side will be found elevated; occasionally this will be reversed, but in either case it is proof positive that the framework which is supposed to protect the vital machinery of life is out of gear.

The great Creator, in His infinite wisdom, has arranged for just such an emergency as this by preparing a system of levers, one of which we will now use in raising the ribs, stretching the intercostal muscles, and expanding the chest.

The pectoralis major, a large muscle which covers the entire front of the chest, attaching to the sternal half of the clavicle (collar-bone), the six or seven upper ribs, and the cartilages of all the true ribs, is inserted by a flat tendon into the external bicipital ridge of the humerus about two or three inches below the shoulder-joint. If you will raise your arm high above the head, you will feel all the upper ribs move, thus proving that our theory is correct.

TREATMENT.

1. Place the patient on the back, with a pillow under the head. Two assistants at the head of the table; one places his right, the other his left hand under the patient's shoulders on the angle of the second rib, half way between the scapula (shoulder-blade) and spine and one inch above the scapula. With the disengaged hands take the patient's

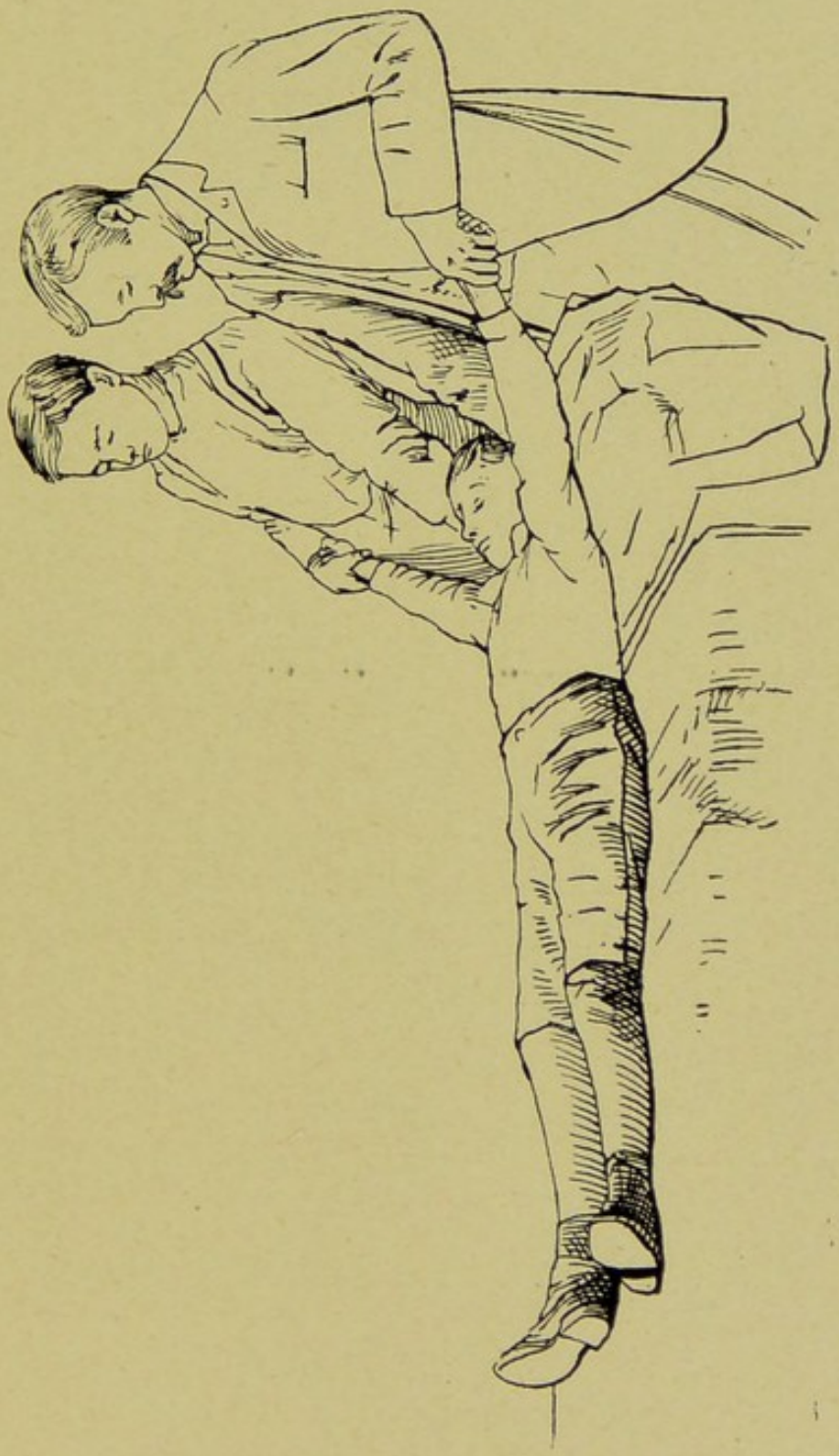
wrists, and, slowly drawing the arms upward high above the head (see cut 4), pull steadily and strongly for a moment; at the same time with the fingers press steadily on the angle of the ribs. Lower the arms slowly, the elbows passing below and to the sides of the table. Move the fingers down the spine one inch, to the angle of the next rib, and draw up the arms as before; repeat until you have raised the four or five upper ribs. It will be also observed that this operation stretches the intercostal muscles.

2. The patient will now be seated upon a stool. The operator places his knee between the shoulders, grasps the patient's wrists and raises the arms slowly but strongly high above the head, pressing hard with the knee and lowering the arms with a backward motion (see cut 5).

Each time as the arms are drawn upward the patient should inhale, filling the lungs to their utmost capacity, exhaling as the arms reach their normal position.

3. Standing beside the patient, with one hand upon each side of thorax, press the ribs forward and upward, holding them in this position while the patient fills the lungs with air.

4. Place the patient upon the back; and, with the fingers of one hand pressing upon the angle of the first rib which is depressed, with the other hand pressing outward and downward upon the cartilages of the ribs that are thrown forward towards the sternum, have an assistant draw the arm upon the side where the depression has been discovered, high and strong above the head, the patient filling the lungs to their utmost capacity. Lower the arm with a backward motion, the elbow passing below the edge of the table, at the same instant pressing hard with the fingers upon the angle of the rib, and with the other hand



CUT 4.—Expanding the Chest.

Cut 5.—Expanding the Chest.

upon the cartilage which is thrown toward the sternum (cut 6).

5. Place the hand lightly upon the thorax, and vibrate gently for two minutes over that portion of the lungs or bronchi which seems to be affected. See Vibration (pages 36 and 67.

It is very important in all cases of **lung trouble** that **vibration** should be given, as it assists in starting, stimulating, and equalizing the circulation through the lungs and bronchial tubes, and very materially aids in the recovery of the patient. We might mention in this connection one case, of a lady, who had been unable to lie down without having a paroxysm for over four years, and after two weeks' regular treatment showed no signs of improvement. After the first vibration a marked change was noticed for the better, and in four weeks a complete cure was effected. Instant relief is often experienced after the first treatment, and a continuation of the treatment seldom fails to effect a cure.

Coughs, colds on the lungs, short **difficult breathing,** and **pleurisy** never fail to respond quickly to our Asthma treatment. Of the numerous cases treated by us in this manner, 90 per cent have been cured and all benefited.

This entire treatment should occupy about fifteen min utes, and be given in acute or stubborn cases each day; in milder forms, every other day is sufficient.

VIBRATION.

Vibrations might be compared to fine shaking movements, in which the whole or part of the palmar surface of the fingers or hand is used. The benefit to be derived from this treatment depends so largely upon the manner in which it is administered, and the treatment is so applicable in such

a variety of cases, that we cannot be too particular in educating ourselves to vibrate correctly. Place the hand lightly upon the patient, using no pressure. The movements at the elbow are flexion and extension, while those of the wrist are adduction and abduction. The vibrations are produced through a succession of quick individual movements. There should be no straining of the muscles in the operator's arm, or strong contractions of the muscles of the hand, arm, or shoulder. When given correctly, with the hand on the anterior surface of the thorax, the vibrations can be easily felt by the other hand placed upon the back of the patient; while with a stiff hand and arm no motion can be distinguished upon the back. To further give an idea of how delicately the movements should be made, place a tumbler of water upon a table, and if the vibrations are given absolutely correct upon the same, the water will not move from side to side, but simply quicken in the center. The table should be fairly large to make a fair test.

PULMONARY TUBERCULOSIS, OR CONSUMPTION.

(Atrophy of the lungs, characterized by tubercle bacillus.)

SYMPTOMS.

The special symptoms are a short and tickling cough; the pain in the chest is slight, and there is either a sense of tenderness or weight experienced at the upper part of the lungs; the breathing is habitually short, and a full inspiration is impracticable, the attempt increasing the sense of weight and soreness or aggravating the cough; the expectorations are generally scanty and small in quantity in the early stages, and in many cases are very trifling throughout; the matter expectorated is watery and whey-like, sometimes

Cut 6.—Raising Depressed Ribs.

tinged with blood, and as the disease progresses thick, tenacious, curdy, or cheesy particles are excreted. As the functional powers of the lungs become impaired the pulse becomes frequent and feeble, the breathing grows shorter; irregular chills come on, succeeded by some degree of feverish heat, and in the last stages night-sweats, diarrhea, swelling of the limbs, etc., denote the rapidly approaching fatal termination. The local condition of the part diseased is one of engorgement, and its secretions are changed from a healthy to a morbid condition.

CAUSE.

It is a well-known fact that cold will contract not only iron and steel, but the muscles of the human body. To prove our theory is correct, allow a cold draught of air to strike the neck for a short time, and possibly the next morning you have a stiff neck; the head does not turn freely on its axis: the muscles that were exposed have contracted and are a little too short. Acting on these principles, we trace consumption to the contracted muscles of the chest, which are forcing the elastic ribs down upon the pleuræ and lungs. The old idea is that as the lungs decay the ribs settle. How absurd to imagine that the soft, spongy lungs support the chest! As well say that a house full of sponges would hold up the roof.

We have established the fact, beyond the shadow of a doubt, that it is the steady pressure of the contracting muscles that causes this dread disease, and experience has taught us that until tuberculosis sets in it can be cured.

TREATMENT.

1. Place the patient on the right side, facing the operator, his left arm flexed, the elbow resting on the right arm of

the operator, pressing against the humerus, thus making a lever of the patient's arm to stretch the muscles of the shoulder and scapula. The patient must allow his muscles to relax as much as possible. The operator will now place his hands in the position shown in cut 7. With the finger-ends close to the spine, pressing quite hard, using the arm as a lever, with a circular motion move the muscles under the hand toward the head.

Do not let the hands slip on the spine, as that would be simply rubbing. Our object is to loosen and stretch the muscles, thus freeing the vital forces of life from any obstruction and equalizing the circulation. After each upward motion, move the hands down one inch, keeping close to the spine and working deep the entire length of the spinal column. The left side will now be treated in a like manner.

2. Place the patient on the back; one operator placing the right hand, the other the left, under the patient's shoulders, the fingers pressing hard upon the angles of the first rib, with the disengaged hands grasp the patient's wrists; as the patient fills the lungs with air, draw the arms slowly and very strongly high above the head (cut 4); lower the arms with a backward motion, pressing hard upon the angles of the ribs, the elbows passing below the sides of the table. Repeat this operation with each successive rib, as low as the lower border of the scapula. It will be observed that this treatment expands the thorax, thereby increasing the breathing capacity of the lungs and also freeing the circulation.

3. Place the hand lightly upon the chest, and vibrate gently over the diseased lung for two minutes. See Vibration (pages 36 and 67.)

4. Place the patient upon a stool; the operator places

Cut 7.—Spinal Treatment.

his knees between the shoulders, grasps the wrists, and raises the arms slowly but strongly high above the head, pressing hard with the knee as he lowers the arms with a backward motion. Patient should always be instructed to inhale when the arms are raised. All manipulations must be slow, careful, and strong; particular care should be taken in treating thoroughly through the upper dorsal region, as it is here, in these diseases, that we usually find contracted muscles pressing upon nerve-centers which control the lungs, thereby causing or aggravating the condition.

The patient can usually be relied upon to caution the operator if too much strength is being used.

A thorough treatment every other day is usually enough to produce the best results, as Nature must be given a chance to do her part. Light cases of lung trouble can be cured in two weeks by this treatment, and the most stubborn, provided tuberculosis has not set in, in from eight weeks to three months.

5. We have recently discovered that stimulation of the spleen by *vibration* will increase the corpuscular richness of the blood, thereby aiding in the removal of morbid elements from the system.

This entire treatment should not occupy over fifteen or twenty minutes.

ACUTE BRONCHITIS.

(Inflammation of the bronchial tubes.)

SYMPTOMS.

Light fever; pain in chest; tickling in the throat; soreness under the sternum; sense of oppression in the chest;

soreness, due to straining the muscles when coughing; expectoration, at first viscid, subsequently muco-purulent.

TREATMENT.

1. Place the patient upon a stool; and, with the knee between the scapulæ, raise the arms high above the head, the patient inhaling as the arms are raised; press hard with the knee, lowering the arms with a backward motion (cut 5). Repeat three or four times, as this movement expands the chest and frees the circulation to the lungs and bronchi.

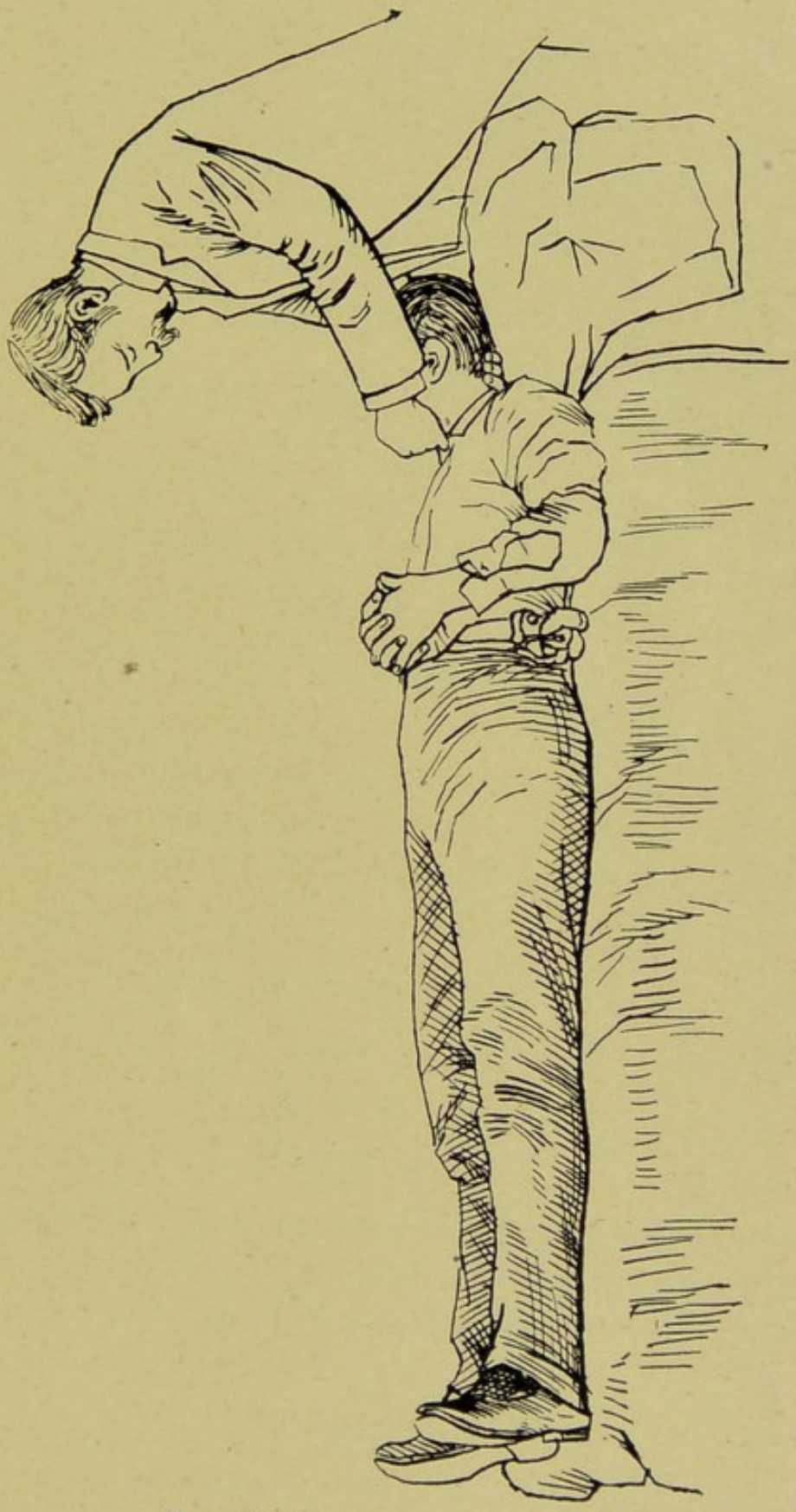
2. Place the patient upon the back; with one hand under the chin, the other under the occipital bone (cut 8), give thorough extension, being careful not to rotate the head.

3. Pulling gently upon the chin, rotate the head as far as possible from side to side, thus stretching the muscles of the neck, and thereby freeing the circulation to the head, also freeing the pneumogastric nerve, which sends filaments to the bronchi and lungs; also manipulate the muscles and trachea very thoroughly as low as the sternum, moving the trachea upward as much as possible, as this movement materially assists in freeing the circulation.

The treatment, while thorough and deep, should be so very gentle as to give no unnecessary pain.

4. Standing in front of patient, place the hands upon each side of the neck, the fingers almost meeting over the spines of the upper cervicals; tip the head backward and press gently for two or three minutes to reduce the fever (cut 35).

It is at this point that we can reach the vaso-motor nerve-center, a steady pressure upon which will reduce almost any fever. See Vaso-motor.



Cut 8.—Extension of Neck.

5. Vibrate gently over the affected part. See Vibration (pages 36 and 67).

This entire treatment should not occupy over fifteen minutes. Immediate relief is usually experienced; and a few treatments, given one each day, will effect a speedy cure.

CHRONIC BRONCHITIS.

(Results from repeated attacks of the acute form.)

SYMPTOMS.

It usually first makes its appearance as a winter cough, becoming continuous subsequently; the breath is short; muco-purulent expectoration.

TREATMENT.

The treatment for chronic bronchitis is the same as in the acute form, with the exception that treatments need not be given oftener than every other day. While we may look for the same results, it will take from two to three months to effect a cure.

CAPILLARY BRONCHITIS.

(Inflammation of the smallest bronchia, and usually secondary.)

SYMPTOMS.

This disease is most common in children and old people; the respiration is hurried, and, in addition to other symptoms, the cough is severe; expectoration scanty; the pulse rapid, with moderate fever.

TREATMENT.

1. Place the patient upon the back; and, with the right hand beneath the left shoulder, the fingers pressing

upon the angle of the first rib, with the left hand grasp the patient's left wrist, and draw the arm high above the head (cut 9); press hard upon the angle of the rib as the arm is lowered with a backward motion, the elbow passing below the edge of the table. Work in this manner as low as the eighth rib, the patient inhaling each time as the arm is raised. Treat the opposite side in a similar manner. This treatment moves the ribs, stretches the intercostal muscles, expands the chest, and frees the entire circulation to the bronchia, an obstruction of which causes inflammation of the smallest bronchia.

2. See 2, 3, 4, and 5, Acute Bronchitis (page 75).

FIBRINOUS BRONCHITIS.

(Usually chronic, and is characterized by expectoration of fibrinous casts.)

SYMPTOMS.

Paroxysmal cough; a decided cyanosis—a diseased condition of the circulation, causing a livid, bluish color in the skin;—dyspnea—labored and difficult breathing;—there may be bleeding from the nose. This disease is more common in males.

TREATMENT.

By expanding the chest, vibration, or any manipulation which will free the circulation, we can hope for good results. But a very small per cent of these cases are cured. See Chonic Bronchitis (page 79).

PUTRID BRONCHITIS.

(May accompany other bronchial affections, and is characterized by inflammation and ulceration of the bronchial mucous membrane.)

Cut 9.—Expanding the Chest.

SYMPTOMS.

Irregular fever; occasional chills; cough; breath and sputa highly offensive.

TREATMENT.

This disease is seldom cured by Osteopathy, but is sometimes greatly benefited. For treatment, see Chronic Bronchitis (page 79).

BRONCHIECTASIS.

(Dilatation of the bronchi.)

SYMPTOMS.

Usually complicated with other bronchial troubles; difficult breathing; paroxysmal cough; mucus, pus, and casts of tubules in the sputa; more common in males.

TREATMENT.

This disease is sometimes benefited by osteopathic treatment. See Chronic Bronchitis (page 79).

CATARRHAL PNEUMONIA OR BRONCHO-PNEUMONITIS.

(Inflammation of the lungs, beginning with the bronchi.)

SYMPTOMS.

Harsh breathing; shallow respiration; temperature elevated; muco-purulent expectoration; and cough.

TREATMENT.

1. Place the patient on the side; beginning at the upper cervicals, with the finger-tips close to the spine, move the muscles upward and outward with a circular motion, gently but deep, the entire length of the spinal column. Treat the opposite side in a similar manner. Tender spots will be found about the third or fourth dorsal, upon which a

pressure will cause the patient to cough; manipulate very thoroughly over these nerves.

2. Place the patient on the back; the hand resting lightly upon the thorax immediately over the right lung, vibrate gently one minute. Treat the opposite lung in a similar manner. See Vibration (pages 36 and 67).

3. Place the right hand under patient's left shoulder, the fingers pressing upon the angles of the second rib; with the left hand draw patient's left arm high and strong above the head as the patient inhales. Press hard upon the angle of the rib as the arm is lowered with a backward motion (cut 9). Work in this manner as low as the eighth dorsal. Treat the opposite side in a similar manner. Great caution must be exercised not to fatigue or exhaust the patient.

4. Place the left hand under the chin, drawing the head gently backward and to the right, at the same instant manipulating the muscles upon the left side of the neck with the right hand. Treat the opposite side and front of the neck in a similar manner. This treatment frees the circulation to the head, also frees and stimulates the pneumogastric nerve, filaments of which assist in controlling the lungs.

5. Place the hands upon each side of the neck, the finger-tips almost meeting over the spines of the upper cervicals; press gently with the fingers three or four minutes upon the vaso-motor to control the fever. See Vaso-motor. The treatment should be given each day, and should not occupy over fifteen or twenty minutes.

ACUTE MILIARY TUBERCULOSIS.

(Disseminating tuberculosis. May involve several organs.)

SYMPTOMS.

Very similar to those of acute bronchitis; rapid pulse;

high fever; delirium; profuse perspiration; prostration; and symptoms of intoxication.

No cure in Osteopathy.

INTERSTITIAL PNEUMONITIS.

(Induration of the lungs, by interstitial over-growth of fibrous tissue. Due to inhaling particles of dust, steel or cotton.)

SYMPTOMS.

Curvature of the spinal column; shoulders drawn down; chest retracted; ribs drawn together; heart displaced towards the affected side.

No cure in Osteopathy.

PULMONARY EMPHYSEMA.

(Dilatation—produced by the infiltration of air—of the air-cells of the lungs.)

SYMPTOMS.

Very distressing cough; difficult breathing; scanty expectoration; enlarged chest; ribs fixed in position of full inspiration; expectoration is attended with a succession of puffs. More common in males.

No cure in Osteopathy.

PULMONARY CONGESTION.

(Excessive amount of blood in the lungs, which diminishes the air-space.)

SYMPTOMS.

Cough; difficult breathing; increased fremitus,—vibration, or thrils;—and bloody expectoration.

TREATMENT.

In the treatment of this disease it is very necessary to use our utmost endeavor to free the circulation to and from the lungs, if we hope to relieve their congested condition.

1. Place patient upon the side; beginning at the last cervical vertebra, the finger-tips barely touching the spine, move the muscles upward and outward with a circular motion, gently but deep, the entire length of the dorsal region. The spine will usually be found in a very sensitive condition, particularly between the third and the sixth dorsal, where a pressure of the hand will instantly produce a paroxysm of coughing. Treatment in this region should be very thorough. Treat the opposite side in a similar manner.

2. Place the patient upon the back; one operator placing the left, the other the right hand, beneath the shoulders, the fingers pressing upon the angles of the second ribs; with the disengaged hands grasp the patient's wrists, drawing the arms gently but strongly above the head, the patient filling the lungs with air; press hard with the fingers upon the angles of the ribs as the arms are lowered with a backward motion. Move the fingers to the next ribs below, and repeat the operation until the sixth rib is reached. This treatment expands the chest, and usually gives immediate relief.

3. Place the hand lightly upon the thorax, over the right lung, and vibrate gently for one minute. See Vibration (pages 36 and 67). Treat the other lung in a similar manner. This treatment tends to equalize and free the circulation in the congested lung.

Care must be exercised, in giving this treatment, not to unduly fatigue or exhaust the patient; on the contrary, if the

treatment is given in a correct manner, the patient will feel refreshed and invigorated.

It is always well after each treatment to place the hand upon the sides of the neck, finger-tips almost meeting over the upper cervicals, and press gently for three or four minutes upon the vaso-motor to reduce the fever and quiet the patient. See Vaso-motor.

PULMONARY EDEMA.

(Serous exudation into the air-cells of the lungs.)

SYMPTOMS.

Similar to congestion, but in a more aggravated form; large quantities of sero-mucoid fluid is expectorated; moist râles,—sounds additional to that of respiration, heard on auscultation of the chest,—are detected. Often occurs with heart disease, or may be associated with dropsical conditions.

TREATMENT.

This disease is very seldom cured, but is sometimes benefited by osteopathic treatment. See Pulmonary Congestion (page 85).

PULMONARY ABSCESS.

(Abscess of the lungs. Always secondary, and must be considered in connection with its cause.)

SYMPTOMS.

Sputum is copious, purulent, and often offensive, and contains elastic fibers.

TREATMENT.

This disease is often benefited and sometimes cured by the Pulmonary Congestion treatment (page 85), being very

particular to give thorough vibration (pages 36 and 67) immediately over the abscess.

PULMONARY THROMBOSIS AND EMBOLISM.

(Plugging of the pulmonary artery or its branches by coagulation in the right heart or veins.)

SYMPTOMS.

Pain in the chest; rapid breathing; craving for air; an intense dyspnea; heart's action irregular; temperature may be below normal, but may rise later.

No cure in Osteopathy.

PULMONARY GANGRENE.

(Mortification of the lungs. Frequently results from pneumonia. Is always secondary, and due to obstruction.)

SYMPTOMS.

A brownish purulent expectoration, having a gangrenous odor, and containing fragments of lung tissue; fever.

No cure in Osteopathy.

CROUPOUS PNEUMONIA, OR LUNG FEVER.

(Inflammation of the lung tissue. Characteristically accompanied by fever reaching its height about the ninth day, local pain, cough, expectoration, and dyspnea. Frequently complicated with other diseases.)

SYMPTOMS.

Croupous pneumonia generally comes on insidiously, with restlessness and feverish disturbance, and sometimes has made great progress before the true character of the disease has been discovered. There is a deep-seated, dull pain beneath the breast-bone or shoulder-blade; a great feeling

of illness; frequent short cough, with expectoration of viscid matter of a green, yellow, or pale color, sometimes tinged with blood, which forms such tenacious masses that inversion of the vessel containing them will not detach them. Profuse green expectoration is a serious symptom. The breathing is hurried and difficult, the skin hot, especially in the regions of the armpits and ribs; there is no moisture in the nostrils, and there exists great thirst. If the disease is unchecked, the face often exhibits patches of redness and lividity and the blood-vessels of the neck become swollen and turgid. The patient may sink either from exhaustion or obstruction of the lungs.

There is shortness and jerkiness of breath, breathing forty or fifty times a minute; red spot on the cheek of the side affected; low or whispering voice; chills; fever; full, rapid pulse; sharp pain in the chest; cough dry, then in two days the expectoration becomes rusty and bloody.

TREATMENT.

1. Place the patient on the side; beginning at the upper cervicals, move the muscles upward and outward the entire length of the spinal column, gently but deep. Treat the opposite side in a similar manner.

2. Place the patient on the back; with one hand under the chin, the other under the occipital bone, give gently extension and rotation of the neck. Also manipulate all muscles of the neck, carefully but very thorough and deep.

3. Place the left hand under the right shoulder, fingers resting upon the angle of the second rib; draw the right arm very gently, but strong, above the head as the patient inhales; lower the arm with a backward motion, pressing hard upon the angle of the rib at the same instant.

Treat the third, fourth, and fifth ribs in a similar manner, and repeat the operation on the opposite side.

4. Place the hand lightly over the right lung and vibrate (pages 36 and 67) gently two minutes. Treat the opposite lung in a similar manner.

5. Place the hands upon the sides of the neck, the fingers almost meeting over the spines of the upper cervicals; tip the head backward, pressing hard upon the vaso-motor center for five minutes, to reduce the fever.

This treatment, if the case is taken in any reasonable time, will give immediate relief, and a continuation of the treatment a speedy cure.

Treatment will occupy about fifteen or twenty minutes, and should be given each day.

PNEUMOTHORAX.

(Air in the pleural cavity.)

SYMPTOMS.

Shallow, hurried breathing; pain in the chest; metallic tinkling may be heard; chest distended on the affected side.

TREATMENT.

This disease is very difficult to manage, but is sometimes benefited by our Asthma treatment (page 60).

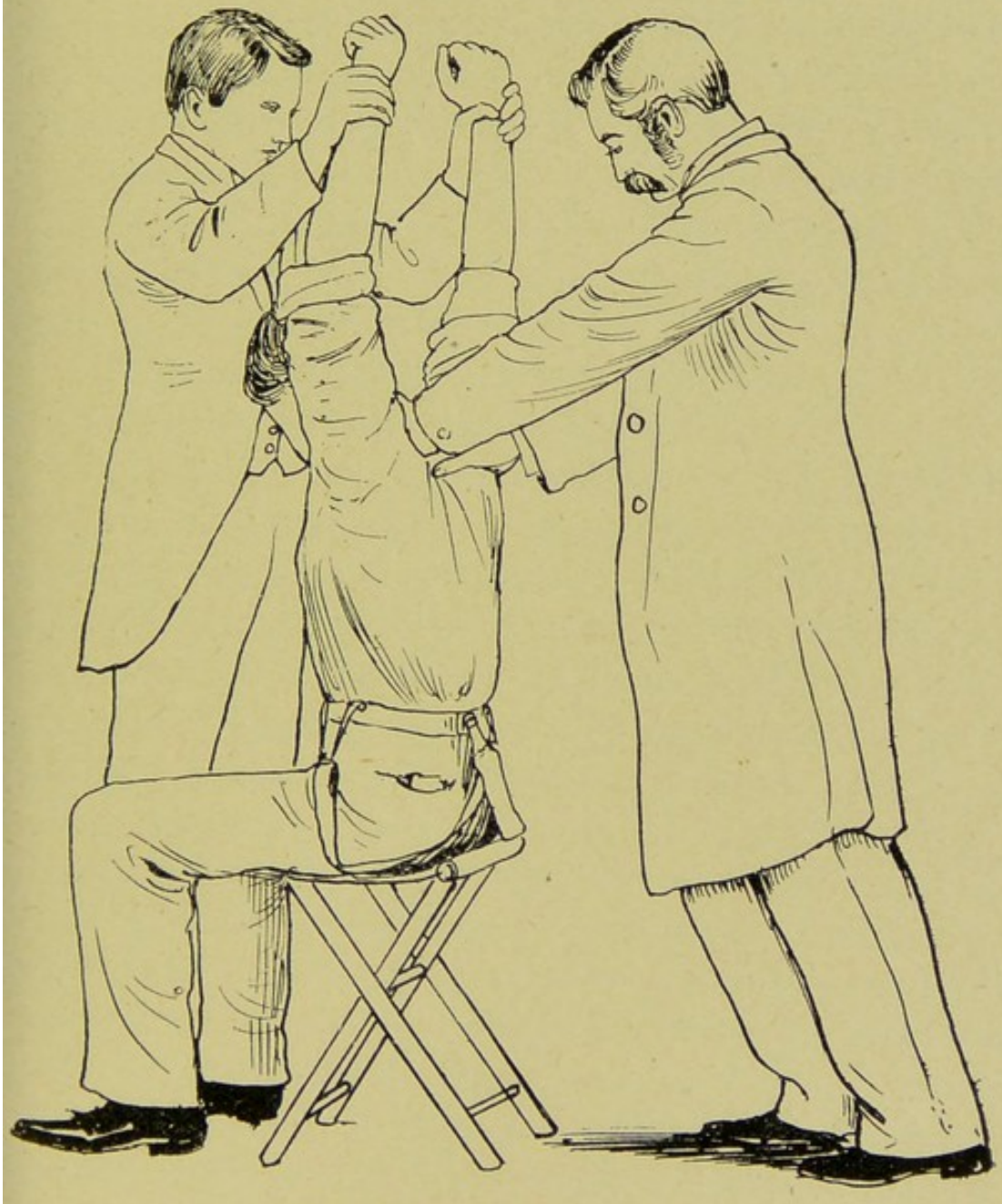
ACUTE PLEURISY.

(Inflammation of the pleura.)

SYMPTOMS.

Sharp and stabbing pain in the side; difficult breathing; fever; cough; the pain generally on a level with the nipple, usually anteriorly to the axilla.

CUT 10.—Raising a Rib.



CUT 11.—Raising the Ribs.

TREATMENT.

1. Trace the rib or ribs under which the pain is located to their angle near the spine; place the thumb of the right hand, should the seat of pain be located in the left side, upon the angle of the first rib above the seat of pain; with the left hand draw patient's left arm high and very strong above the head (cut 10) as the patient fills the lungs to their utmost capacity; press hard with the thumb as the arm is lowered with a backward motion. Apply the same treatment to the next two lower ribs.

This treatment seldom fails to give instant relief; and two or three treatments usually effect a cure.

2. Should the case prove stubborn and fail to respond to the above treatment, stand behind the patient, who should be seated upon a stool, and place the thumbs on each side of the spine upon the angles of the third ribs; the assistant stands in front and grasps the patient's wrists, raising the arms slowly with great strength high above the head (cut 11), the patient inhaling, and relaxing all muscles. This treatment stretches the intercostal muscles and expands the chest, thereby freeing the blood-supply to the pleura, an obstruction of which has caused its congested condition. Always press hard upon the angles of the ribs as the arms are lowered with a backward motion, the patient permitting the elbows to bend. Place the thumbs upon the angles of the fourth ribs, while the assistant raises the arms as before. This operation should be repeated until we are below the seat of pain.

This treatment usually gives immediate relief, and always effects a cure in a very short time. Treatment should be given once each day, until a cure is effected. All manipulations, while strong, should be slow and gentle, great care being exercised to give no unnecessary pain.

CHRONIC PLEURISY.

(Results from acute attacks.)

SYMPTOMS.

Curvature of the spine; chest contracted; heart displaced; scapula dislocated, and shoulder deformed; chills; sweats; and accelerated pulse.

TREATMENT.

Chronic cases of pleurisy which have not reached what might reasonably be considered an incurable stage can be relieved, and a very large per cent cured, by a continuation of the treatment as laid down for Acute Pleurisy (page 60). Treatment should be given every other day, and should occupy not over ten minutes. We may expect a cure, according to the nature of the case, in from one to three months.

EMPYEMA.

(Effusion of pus into the pleural cavity.)

SYMPTOMS.

If the effusion is on the right side, the diaphragm and liver are depressed; if on the left, the heart is displaced and the apex beat is found in the epigastrium; palpable vibrations of the chest walls absent; heart action rapid, and pulse feeble.

TREATMENT.

This disease, although sometimes benefited, is seldom cured by Osteopathy.

1. A light treatment, as in Pleurisy, should be given (see page 60).

2. Place the patient on the back; the hand resting lightly over the diseased portion of the pleura, vibrate

gently for three or four minutes. See Vibration (pages 36 and 67).

HYDROTHORAX.

(Dropsy of the chest. Usually occurs in the course of debilitating diseases.)

SYMPTOMS.

General symptoms of effusion; difficult breathing, relieved only by an upright position; no symptoms of inflammation.

No cure in Osteopathy.

HEMOTHORAX.

(Effusion of blood into the pleural cavity. May result from rupture of an aneurism, or may be in connection with a serous effusion; if the latter, it likely indicates carcinoma, or tuberculous disease.)

SYMPTOMS.

General symptoms of effusion, such as no pain or frictional sound; enlargement of the affected side; displacement of the organs; diminution of movement.

No cure in Osteopathy.

INTERCOSTAL NEURALGIA, OR PLEURODYNIA.

(Pain in the intercostal muscles.)

SYMPTOMS.

A constant aching or burning pain, aggravated by turning, twisting, or breathing; the side is also sensitive to touch; it often leaves one side and attacks the other.

TREATMENT.

This disease can usually be quickly relieved, and while somewhat slow, can be nearly always cured by our Acute Pleurisy Treatment (page 60).

DIAPHRAGMATIC PLEURISY.

(Inflammation of the pleura involving the diaphragm.)

SYMPTOMS.

Greater elevation of temperature than in ordinary pleurisy; pain in the epigastrium; hiccough; vomiting; nausea; intense dyspnea; peritonitis may occur at any time.

TREATMENT.

1. See Acute Pleurisy (page 60).

2. Standing behind the patient, place the fingers upon the transverse processes of the third, fourth, and fifth cervical vertebræ; press the muscles forward and slip the fingers down in front of the transverse processes, where a pressure can be exerted upon the phrenic nerve, near its origin (cut 12). This nerve controls the diaphragm, and a pressure at this point breaks the nerve-wave to this muscle, and consequently slows its action, as is fully explained under the head of Hiccoughs. The phrenic nerve should be held about two minutes.

3. Place the hand lightly over the pit of the stomach and vibrate gently two minutes.

4. Press gently upon the stomach, slowly increasing the pressure, until as much strength is exerted as patient can endure without too much inconvenience.

Standing beside the patient, place one hand upon each side of the neck, the first fingers resting against the occipital bone, the index fingers meeting over the spine of the upper

CUT 12.—Holding the Pherenic Nerve.

CUT 13.—Holding the Vaso-Motor.

cervicals; tip the head slightly backward, press gently with the fingers for three or four minutes upon the vaso-motor center (cut 13), thus reducing the fever. See Vaso-motor.

Treatment should be given every day, occupying about fifteen minutes.

Diseases of the Heart and Blood-Vessels.

THE HEART.

The heart is a hollow, muscular organ, of a conical form, placed between the lungs and enclosed in the cavity of the pericardium. It is placed obliquely in the chest, the broad attached end, or base, upward, backward, and to the right, and corresponds to the interval between the fifth and eighth dorsal vertebræ; the apex is directed downward, forward, and to the left, and corresponds to the space between the cartilages of the fifth and sixth ribs, three-quarters of an inch to the inner side, and an inch and a half below the left nipple. The heart is placed behind the lower two-thirds of the sternum, and projects farther into the left than into the right cavity of the chest, extending from the median line about three inches in the former direction and only one and one-half inches in the latter. In the adult it measures five inches in length, three inches and a half in the broadest part, and two inches and a half in thickness. The average weight in the male varies from ten to twelve ounces, and in the female from eight to ten. It continues to increase in weight, also in length, breadth, and thickness, up to an advanced period of life. The heart of man and warm-blooded animals may be said to be made up of two muscular sacs, the Pulmonary and Systemic pumps, or, as they are commonly called, the right and left sides of the heart. Between these no communication exists after birth. Each of these sacs may be divided into two chambers. One, acting as an ante-

chamber, receives the blood from the veins; it has very thin walls, and is called the Auricle; the other, the Ventricle, is the powerful muscular chamber which pumps the blood into and distends the arteries.

Innervation of the Heart.— When the heart is removed from the body, or when all the nerves which pass to it are divided, it still beats for some time, so that its movement must depend upon some mechanism situated within itself. The movement lasts longer in cold-blooded animals (frog and turtle), extending even to days, than in mammals. A rabbit's heart beats from three to thirty-six minutes after it is out of the body. The average of many experiments is eleven minutes. If the heart has ceased to beat, it may be excited to action for a short time by direct stimulation, more especially by heat. The ordinary rhythmical movements of the heart are undoubtedly associated with the presence of nerve ganglia which exist in the surface of the heart, but the movements of the heart are influenced by nervous impulses which reach it from without.

The **cardiac plexus** is composed of the following nerves: The cardiac branches of the vagus, a branch of the same name from the external branch of the superior laryngeal, a branch from the inferior laryngeal, and sometimes branches from the pulmonary plexus of the vagus; the superior, middle, inferior, and lowest cardiac branches of the three cervical and the first thoracic ganglia; the inconstant twig of the descending branch of the hypoglossal nerve, which arises from the upper cervical ganglion. From the plexus there proceeds the deep and superficial nerves.

It will be observed that the nerves which form the cardiac plexus are composed of branches of nerves which can be reached by direct pressure, either in the cervical or upper

dorsal region; hence the osteopath, by thorough knowledge of anatomy, is enabled to so manipulate these nerves as to slow or quicken the action of the heart.

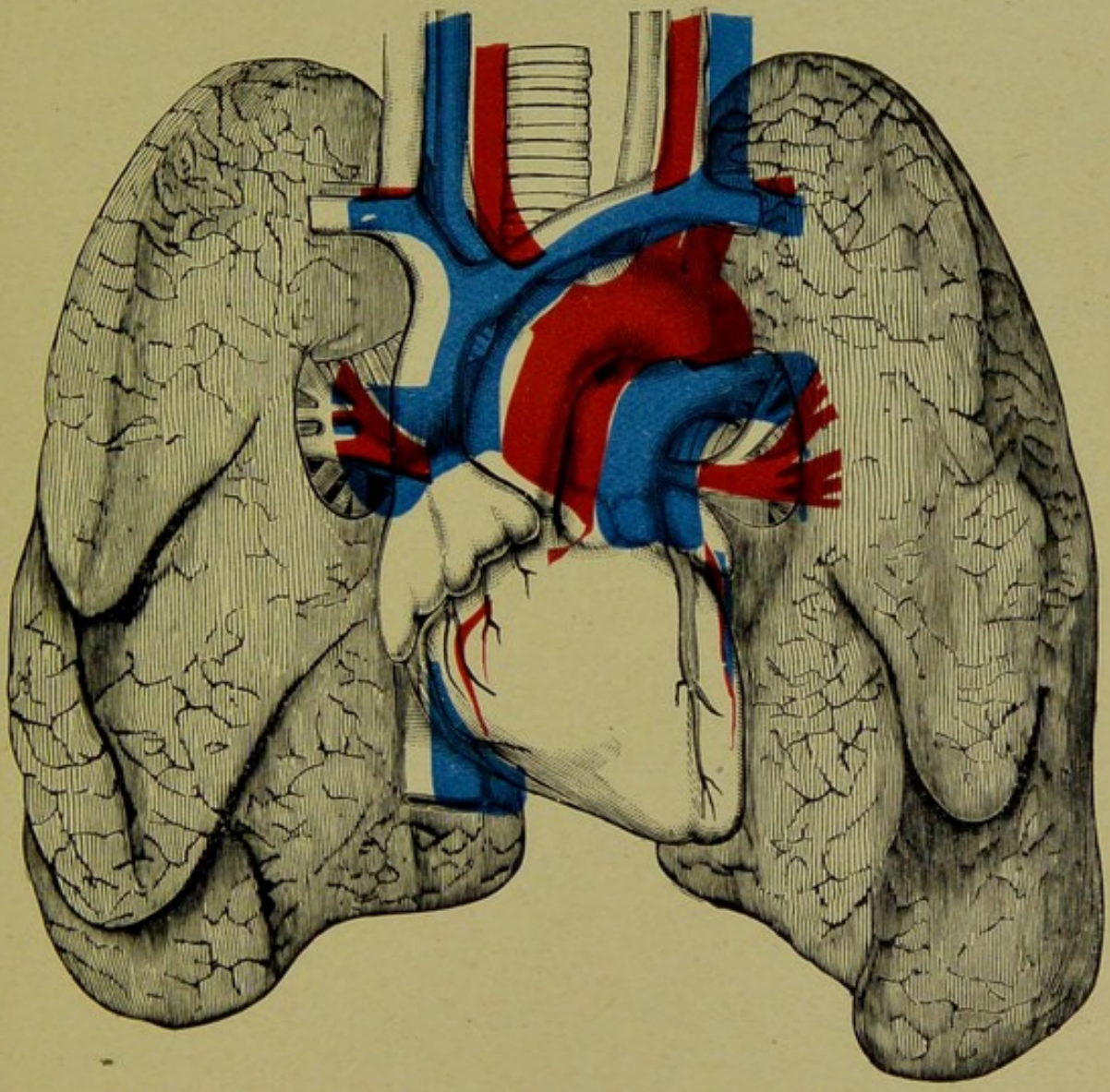
It has been found that stimulation of the cervical portion of the spinal cord causes **quickening of the heart-beat**, while a steady pressure on the same nerve-centers **slows the action of the heart.** It is thus that in fever, working from this center, we slow the heart's action, and are thereby enabled to reduce any fever in an incredibly short time.

THE BLOOD-VESSELS.

We will now briefly refer to the blood-carrying mechanism, our object being to prove to our readers that the heart, arteries, and veins are simply different parts of the same machine, and that the contraction of a muscle, throwing a pressure on an artery or vein, will affect the heart, on the same principle that a force-pump attached to a rubber hose would be affected should you stand on the hose.

The channels which carry the blood through the body form a closed system of elastic tubes, which may be divided into three varieties: Arteries, Capillaries, and Veins.

Arteries.—The arteries are those vessels that carry the blood from the heart to the capillaries. The great trunk of the aorta springs from the left ventricle and gives off a series of branches, which in turn subdivide more and more freely in proportion to their distance from the heart. The aorta is divided into the arch, ascending and descending portions. The descending aorta is divided into two portions, the thoracic and abdominal, in correspondence with the two great cavities of the trunk, in which it is situated. The thoracic aorta commences at the lower border of the fourth dorsal vertebra on the left side, and terminates at the aortic open-



Cut 14.—The Heart, Lungs, and Great Vessels.

ing in the diaphragm, in front of the last dorsal vertebra. The abdominal aorta commences at the aortic opening in the diaphragm, in front of the body of the last dorsal vertebra, and, descending a little to the left of the vertebral column, terminates opposite the body of the fourth lumbar vertebra, where it divides into the right and left common iliac arteries. The common iliac arteries are about two inches in length, and divide opposite the intervertebral substance of the last lumbar vertebra and sacrum, into the internal and external iliac arteries, the latter supplying the lower extremities. The external iliac artery passes obliquely downward and outward along the inner border of the psoas muscle from the bifurcation of the common iliac arteries to Poupart's ligament, where it enters the thigh and becomes the femoral artery. The femoral artery commences immediately behind Poupart's ligament, midway between the anterior and superior spine of the ilium and the symphysis pubis, and, passing down the front and inner part of the thigh, terminates at the opening of the adductor magnus muscle at the junction of the middle with the lower third of the thigh, where it becomes the popliteal artery. The popliteal artery commences at the termination of the femoral at the opening in the adductor magnus, and, passing obliquely downward and outward behind the knee-joint to the lower border of the popliteus muscle, divides into the anterior and posterior tibial arteries. The anterior tibial artery passes forward between the two heads of the tibialis posticus to the deep part of the front of the leg; then descends on the anterior surface of the interosseous membrane, gradually approaching the tibia, and at the lower part of the leg lies on the bone, and then on the anterior ligament of the ankle to the bend of the ankle-joint, where it lies more superficially and becomes

the dorsalis pedis. This artery passes forward from the bend of the ankle along the tibial side of the foot, and terminates in two small branches, the dorsalis hallucis and communicating. The posterior tibial artery is of large size, and passes obliquely downward from the lower border of the popliteus muscle along the tibial side of the leg to the fossa between the ankle and the heel, where it divides into the internal and external plantar arteries.

Now, having traced this river of blood, which throws branches to each organ and muscle in its course from the heart to its termination in the lower extremities, passing as it does through, over, under, and between the numerous muscles on its journey, it will not be hard for the intelligent reader to believe that an obstruction to its free flow, caused by contracted muscles, would affect the heart. Cramping of the muscles is so very common, often leaving the muscles in ridges, that the most skeptical will not dispute the fact that muscles will contract and remain in that condition. The heavy muscles of the thigh and those below and about the knee, from their peculiar relation to the artery and their great strength, are usually at fault, and by a simple twist of the leg, throwing these muscles on a strain, and thereby freeing the femoral artery, we have cured cases of heart disease that had baffled the best physicians of modern times.

Having followed this river of blood from the heart to its termination, we must now trace it back to the heart and endeavor to locate along its channel the cause of dropsy and consequent heart trouble. The frequently branching arteries finally terminate in the capillaries, in which distinct branches can no longer be recognized, but their channels are interwoven into a network, the meshes of which are made up of vessels all having the same caliber. They communicate with the capillary network of the neighboring arteries.

so that any given capillary area appears to be one continuous net of tubules connected here and there with a similar network from distant arterioles, and thus any given capillary area may be fed with blood from several different sources.

Veins.—The veins arise from the capillary network, commencing as radicles, which correspond to the ultimate distribution of the arterioles, but they soon form wider and more numerous channels. They rapidly congregate together, making comparatively large vessels, which frequently intercommunicate and form coarse and irregular flexures. Thus it will be seen that we have two rivers, one distributing, the other gathering up and returning the blood to the heart. While a pressure on an artery, cutting off the supply to the extremities, causes them to be cold, at the same time affecting the heart, a pressure on a vein, stopping the return current, will necessitate an engorgement of the blood in the capillaries; the heart, working against heavy odds in trying to force the blood past the contracted muscles, will certainly be affected, while the stagnant blood, unable to escape, will cause either **inflammatory rheumatism, dropsy,** or **erysipelas.**

EXPLANATORY.

In treating diseases of the heart, three great **principles** must be constantly kept in mind:

(1) *An obstruction*, from any cause, *to the free circulation* of the blood overworks the heart, and in time *must certainly affect that organ.* This condition can be relieved by very careful and thorough manipulation of the muscles and by using the limbs, arms, and neck as levers to stretch any and all muscles to which they give attachment.

In very many cases of **organic heart trouble,** in which we cannot hope to effect a cure, to free the circulation by manipulation relieves the pressure upon the heart to such

an extent that the patient improves rapidly, and his life may be prolonged for years.

(2) *A contraction of the thorax or enlargement or misplacement of any organ is very liable to affect the heart*, in which case we must remove the cause, and the heart will be immediately relieved.

We have very often cured a case of heart disease by a few applications of our Asthma treatment. We have cured others by relieving a severe case of dyspepsia; one, where the patient lay dying, with two M.D.'s at his bedside, by placing the thumb of the right hand upon the angle of the fifth rib, and with the left drawing the left arm high and very strong above the head, pressing hard upon the angle of the rib as the arm was lowered with a backward motion.

It is impossible to lay down a line of treatment that can be used successfully in all cases; so many complications are liable to exist that a great deal will depend upon the skill and good judgment of the operator, who should apply such treatment as, in his judgment, the condition indicates.

There is a prevailing idea among the medical fraternity that in many cases of heart disease it is very dangerous to draw the arms high above the head. We consider this idea erroneous, if due caution is exercised in giving a very light treatment at first, gradualy increasing the strength employed, as the patient becomes accustomed to the manipulations.

In treating osteopathically, for any disease, the treatment should be slow, gentle, and no stronger than the patient can stand without fatigue.

(3) *The vaso-motor nerve-center* (see heading), controlling as it does the caliber of the arteries, *must be carefully studied*

and never forgotten, in all cases that would indicate any complication of a nervous origin.

"ENLARGEMENT OF THE HEART."

CAUSE.

Heart disease is often caused by constipation and a diseased condition of the alimentary canal. Those cases can be readily distinguished, as the patient will find great difficulty in breathing when in a recumbent position, and upon resuming an upright position will feel immediate relief, thus proving that the organs are distended to such an extent that there is at all times a pressure on the diaphragm, left lung, and heart, and that their own weight, when in an upright position, will partially free the last named organs. It will be readily understood that our Constipation (page 147) or Indigestion (page 156) treatment, or both, as the case may seem to require, will cure this form of heart disease as it has done in hundreds of cases. Other cases—and they are very numerous—are caused by a contraction of the muscles, depressing the ribs immediately over the heart, thus interfering with its action. We are led to believe that there are very few cases of actual "enlargement of the heart," but that the so-called "enlargement of the heart" is really a compression of the cavity in which the heart is contained.

TREATMENT.

1. Free all the muscles attached to the ribs immediately over the heart, from the spine to the median line, on each side, always moving the flesh upward, using the arm as a lever in treating the muscles of the spine (cut 7).

2. Place the patient on the back; two operators, one grasping each wrist, placing the disengaged hands between

the patient's shoulders, the fingers pressing hard upon the angle of the rib between the spine and scapula, draw the arms slowly, but with some strength, high above the head; move the hands down one inch, and repeat until you have reached the lower angle of the scapula.

This will usually give instant relief, and seldom fails to effect a cure in from two to four weeks' treatment. A treatment should be given every other day.

Of the many cases cured by us in this manner, it might be well to mention an old gentleman of Galena, Kansas. As a drowning man will grasp at a straw, when he was dying and nearly all hope had fled, we were called in, and, in the presence of two medical doctors and the members of his family, we raised his ribs, thus permitting the heart to act. In a few minutes we had our patient out of danger. We will also add that he never afterward experienced any difficulty with his heart.

FEEBLE ACTION OF THE HEART.

CAUSE.

This trouble is caused by an almost imperceptible contraction of all the muscles, thus interfering with the entire circulation. An aching, tired sensation, so often felt, is caused by the contracting muscles, as is readily proven beyond the shadow of a doubt by the fact that after a general treatment, stretching and moving all the muscles, permitting the sluggish blood to move more rapidly through the arteries and veins, the heart's action is increased and the tired, aching, worn sensation has entirely disappeared.

TREATMENT TO EQUALIZE THE CIRCULATION.

1. Place the patient on the side; using the arm as a lever (cut 7), with the fingers pressing rather hard close to

the spine, beginning at the first cervical vertebra, move the muscles upward and outward gently but deep, the entire length of the spinal column. Treat the opposite side in a similar manner.

In giving this treatment the operator should endeavor to avoid as much as possible using the ends of the fingers, but should place the hands flat, using the fingers as far back as the second phalanges, which will give the patient no pain, while the ends of the fingers are apt to go too deep, thus causing the patient unnecessary discomfort.

Tender spots upon the spine are very apt to be discovered; in which case a little additional treatment should be given in this immediate region, which will assist in relieving the congested condition, possibly immediately over some nerve-center, which may control some distant part of the anatomy, and hence could not be expected to do its work correctly with such a condition existing at its origin.

2. Flex the limbs against the chest, the patient lying on the back; rotate the leg from side to side quite strongly two or three times, extending the limb with a light jerk (cuts 32 and 36). Flex the limbs strongly against the chest, abducting the knee and adducting the foot as the limb is extended. This treatment stretches the adductor muscles of the thigh, thereby freeing the femoral artery and vein and the long saphenous vein, and should never be omitted in any case where the patient is troubled with cold extremities.

3. Grasp the thigh firmly, with one hand on each side, the fingers meeting; beginning close to the body, move the flesh to the bone, if possible, from side to side (cut 29).

This treatment is beneficial in all cases of impaired circulation of the limbs.

4. Place the left hand under patient's right shoulder,

the fingers on the angle of the second rib; with the right hand grasp the patient's right wrist, drawing the arm slowly, with some strength, above the head as the patient inhales; press hard with the fingers upon the angle of the rib as the arm is lowered with a backward motion. Treat the third, fourth, and fifth ribs in a similar manner. This operation should be repeated on the opposite side.

It is remarkable what a relief the patient will experience in almost all cases of heart disease if this treatment, which expands the chest and equalizes the circulation, is given in a correct and scientific manner.

5. Place one hand under the chin, the other under the back of the head, and give gentle extension (cut 8), rotating the head from side to side. In all cases where the action of the heart is too rapid, place one hand on each side of the neck, the fingers almost meeting over the spines of the four or five upper cervicals; press gently with the fingers for three or four minutes upon the vaso-motor center (see cut 13). A pressure at this point causes the arteries to relax, thus increasing their caliber and slowing the action of the heart.

In all cases of heart disease or diseases of the blood, in addition to this treatment, such other treatment should be given as the condition for accompanying complications would indicate.

In applying osteopathic treatment, the operator must determine with the utmost nicety just how strong or light a treatment will reduce the best results. Always begin with a very light treatment, which should increase in strength with each succeeding treatment until a point is reached beyond which we can go no further without unduly fatiguing the patient. If the treatment is correctly given,

the patient should feel refreshed and relieved after each treatment.

This treatment will require from fifteen to twenty minutes, and in acute cases should be given each day; in chronic diseases every other day is sufficient.

Of the numerous cases cured by this treatment, we will mention that of an old gentleman of Galena, Kansas. He could not climb the steps to our office. We treated him on the counter in a grocery store near by. His pulse, which was hardly perceptible, was down to 38. When he came for his second treatment, two days later, his pulse was strong and had increased to 58. He could hear better, and recognized people on the street for the first time in months.

VALVULAR DISEASE OF THE HEART.

(Structural changes in the valves, causing either obstruction or regurgitation at the orifices affected. Includes Valvulitis and Valvular Incompetency.)

SYMPTOMS.

As long as the heart muscle is sufficiently enlarged to compensate for the impaired circulation there are no symptoms; otherwise it may be distinguished by the appearance of Dilatation or Hypertrophy.

TREATMENT.

In this disease we do not hope to effect a cure. The patient can be often relieved and greatly benefited by a very careful application of Treatment to Equalize the Circulation (page 114).

CARDIAC DILATATION.

(Expansion, usually more prominent in the right heart.)

SYMPTOMS.

Irregular and rapid action of the heart; pulse weak; poor circulation; venous congestion; edema; syncope,—sudden faintness with loss of consciousness; dyspnea.

TREATMENT.

This disease can be greatly relieved, and the patient's life prolonged. See Treatment to Equalize the Circulation (page 114).

Treatment must be given in a gentle and very careful manner.

CARDIAC HYPERTROPHY.

(Abnormal enlargement of the heart.)

SYMPTOMS.

Action of the heart rapid and regular; pulse full and strong; rush of blood to the head; shortness of breath; vertigo; ringing in the ears; insomnia; palpitation; and paroxysmal cough.

TREATMENT.

Sometimes benefited by a Treatment to Equalize the Circulation (page 114).

CARDIAC VERTIGO.

(Dizziness, usually associated with cerebral anemia, and closely allied to fainting—also may be associated with fatty heart and dilatation of its right cavities.)

SYMPTOMS.

Swimming sensation in the head; darkness falls on the eyes; patient becomes weak and chilly.

TREATMENT.

See Treatment to Equalize the Circulation (page 114).

CARDIAC MALFORMATION.

(Abnormal structure or shape of the heart. Imperforated interventricular septum and a failure of the foramen ovale to close are the most common.)

SYMPTOMS.

Cyanosis is the most common; patient seldom reaches adult life

No cure in Osteopathy.

DEXTROCARDIA.

(Congenital displacement of the heart on the right side.)

SYMPTOMS.

Sound and impulse of the heart are on the right side instead of the left.

No cure in Osteopathy.

TACHYCARDIA.

(Abnormal rapidity of the heart's action.)

SYMPTOMS.

Heart-beats rapid, accompanied with palpitation.

TREATMENT.

This disease is often benefited by thorough and very careful Treatment to Equalize the Circulation (page 114).

ANGINA PECTORIS.

(Neuralgia of the heart. Breast-pang.)

SYMPTOMS.

Intense tearing and squeezing pain in the precordial region, extending to the shoulder and arm; irregular pulse; paroxysm; features drawn; apt to follow atrophy or fibroid degeneration suffocation in the breast.

TREATMENT.

Very thorough and careful Treatment to Equalize the Circulation, being careful to give No. 4 slowly, gently, but very thoroughly (page 114).

ENDOCARDITIS.

(Inflammation of the endocardium.)

SYMPTOMS.

Heart action rapid; dyspnea; face flushed and countenance anxious; elevation of temperature; irritable stomach; slight cough; delirium; diarrhea. May accompany acute rheumatism.

TREATMENT.

1. Very thorough Treatment to Equalize the Circulation (page 114).

2. Place the hand lightly over the heart and vibrate gently two minutes. See Vibration (pages 36 and 67).

PERICARDITIS.

(Inflammation of the pericardium.)

SYMPTOMS.

Irregular and rapid action of the heart; pain in the precordial region; elevation of temperature; dyspnea; nausea; and vomiting.

TREATMENT.

1. See Treatment to Equalize the Circulation (page 114).

2. Place the hand lightly over the heart and vibrate gently two minutes. See Vibration (pages 36 and 67).

MYOCARDITIS.

(Inflammation of the cardiac muscular tissue.)

SYMPTOMS.

Somewhat similar to those of Endocarditis and Pericarditis. Often occurs with rheumatism.

TREATMENT.

1. See Treatment to Equalize the Circulation (page 114).

2. Place the hand lightly over the heart and vibrate gently for two minutes. See Vibration (pages 36 and 67).

HYDROPERICARDIUM.

(Dropsy of the pericardium.)

SYMPTOMS.

Similar to those of Pericarditis, without elevation of temperature; evidence of edema and pleural effusion; also signs of nephritis.

No cure in Osteopathy.

CARDIAC THROMBOSIS.

(Coagulation of the blood in the cavities of the heart.)

SYMPTOMS.

Rapid action of the heart, feeble and irregular; surface of the body cold and livid; vomiting; syncope; delirium; venous turgidity; nervous excitement.

No cure in Osteopathy.

THORACIC ANEURISM.

(Rupture or dilatation of one or more of the coats of the thoracic aorta.)

SYMPTOMS.

Irregular heart action; venous stagnation and edema; inability to swallow; localized perspiration; pulsating tumor; contraction or dilatation of one of the pupils.

TREATMENT.

This disease is sometimes benefited by a Treatment to Equalize the Circulation (page 114).

ARTERIO-CAPILLARY FIBROSIS.

(Degeneration of the walls of the smaller blood-vessels.)

SYMPTOMS.

Impairment of the nutrition and mental faculties; numbness and coldness of the extremities; shortness of breath; impeded circulation; vertigo; and irregularity of heart action.

TREATMENT.

This disease is sometimes benefited, but never cured, by Osteopathy. See Treatment to Equalize the Circulation (page 114).

CARDIAC FUNCTIONAL DISTURBANCE.

(Deranged action of the heart without structural lesion. Due to impaired digestion and nutrition, resulting from dissipation, overwork, or excessive use of stimulants.)

SYMPTOMS.

Irregular action of the heart; palpitation; dyspnea; vertigo; and pain. Often develops into structural change.

TREATMENT.

While in all organic diseases of the heart we cannot expect to give more than temporary relief, often succeeding, however, in prolonging the life of the patient for years; in all functional diseases we are very successful.

It is always advisable to give the Treatment to Equalize the Circulation (page 114). This treatment not only frees the circulation, but expands the chest, thereby relieving the short, difficult breathing which often accompanies this disease.

A great deal will depend upon the good judgment of the operator in treating these cases. So many different complications are liable to arise, for which such treatment should be given as the judgment of the operator would indicate.

VARICOSE VEINS, OR VARIX.

(Morbid dilatation of the veins.)

SYMPTOMS.

The affected veins are dilated, tortuous, knotted, of a dull leaden or purplish blue color, with much discoloration of the parts and some swelling of the limb; if a great many small cutaneous veins are alone affected, they present the appearance of a close network; the enlarged veins and local swelling diminish after taking the horizontal position.

CAUSE.

Varicose veins are caused by a stoppage of the veins, usually by a pressure on the long saphenous or femoral vein.

TREATMENT.

Can be readily cured by stretching the muscles of the thigh and otherwise treating the limbs as in Inflammatory Rheumatism, being very careful in handling the flesh below the knee.

We will mention our first case of varicose veins to prove to our readers how easily this disease may be cured by viewing the human system as a machine and the arteries and veins as rivers of blood, easily obstructed. The veins of the right limb below the knee were almost bursting, while the dead, stagnant blood in the capillaries formed sores, on which scales formed, occasionally dropping off, exposing the raw, bleeding surface beneath. Every known method had been tried and failed during the ten years he had suffered with this apparently incurable disease. The long saphenous vein, which empties into the femoral vein in the thigh, and whose branches gather and return the venous blood from the lower part of the leg, gorged, knotted, and distended as large as the little finger, could be traced to the obstruction, a contracted muscle in the thigh. It almost seems incredible that, where its cause was so apparent, for years the medical fraternity would work on the effect, encasing the limb in a rubber stocking to strengthen the bursting veins, while throwing medicine into the river above, with some object in view, unknown to the writer and possibly equally unknown to themselves. We gave the gentleman four treatments, stretching and freeing all the muscles of the thigh and starting the blood up the long saphenous vein. His limb immediately became easier. At this time we were called to southern Kansas, and after a year, when we had almost forgotten the incident, we met our old friend in a small Missouri town, entirely recovered.

PHLEBITIS.

(Inflammation of a vein, which may be caused by traumatism, thrombosis, or gout.)

SYMPTOMS.

Similar to those of Thrombosis, with a dusky red line in the course of the vein.

TREATMENT.

Such treatment should be given as will free the circulation through and from the affected area.

ANASARCA, OR GENERAL DROPSY.

(An abnormal accumulation of serum in some serous cavity of the body, or a diffusion of such fluid through the cellular tissue.)

SYMPTOMS.

It is of two distinct varieties, for, besides its occurrence in the meshes of the loose tissue beneath the skin, it may take place as a local dropsy in any of the natural cavities or sacs of the body, and is named according to the parts involved.

Partial dropsy is always due to excessive venous repletion, and this overdistension of the small veins is the result of some mechanical impediment to the venous circulation. Dropsy due to obstructed portal circulation may be recognized by the following clinical characters: It begins in the abdomen; difficult breathing follows, but does not precede the ascites. There is a tendency to vomiting, diarrhea, and piles; further, the spleen becomes enlarged and there are varicose veins on the right side of the abdomen.

Dropsy at first partial, but afterwards becoming general, commences in the feet and extends upward, and this is also due to excessive venous repletion from obstructed venous circulation.

Dropsical swellings are soft, inelastic, diffused, and leave, for some time, the indentation made by the pressure of a finger. In chronic cases and when the swelling is very great the skin becomes smooth, glassy, and of a dull red or purple color; and where the skin is less elastic it becomes livid or blackish and troublesome, even gangrenous, or sloughs may form.

TREATMENT.

In treating dropsy, of whatever organ, it is necessary to use such remedies as will act on the kidneys and skin and excite them to increased activity; the result of this activity is to diminish the fluids which have collected in one or another part of the body and remain there unabsorbed, and cause them to be taken up by the kidneys or thrown off by the skin, and thus carried out of the system through the natural outlets. Any remedy that accomplishes this object effectively cures dropsy occuring in any part of the body.

1. Place the patient on the side; and move all the muscles of the spine very deep from the tenth dorsal to the last sacral vertebra. This will excite the nerves which control the kidneys to renewed action, thereby enabling them to separate the immense amount of water about to be poured into them from the blood.

2. Give Treatment to Equalize the Circulation (page 114), being very careful to stretch all the muscles near the affected parts.

In a very short time, usually from two to six days, the kidneys will begin to act very freely, throwing off the decomposed and watery particles of blood, while in from six to twelve weeks the patient will be entirely well.

Of numerous cases of dropsy cured by us we will mention that of a lady of Joplin, Missouri, whose case had not only been treated by the best physicians of her own city, but those of Kansas City and St. Louis. She came to us in a hopeless condition; her abdomen, limbs, and feet were swollen to more than twice their normal size. After the second treatment, she began to improve rapidly, and in ten days her ankles could be spanned by the thumb and fingers; in one month the dropsy had entirely disappeared. She

gained strength rapidly, and in a short time had entirely regained her health.

Another remarkable case was that of an old gentleman of Baxter Springs, Kansas, who had been for five years gradually losing the use of his lower limbs, and during the last year dropsy had made its appearance. After the second treatment, the dropsy had almost entirely disappeared; his limbs regained their long-lost strength, and he would leap about the office like a boy in an ecstacy of delight, kicking higher than the doctor's head and springing from the floor to our operating-table with apparent ease.

Diseases of the Blood.

ANEMIA.

(Deficiency of blood and red corpuscles.)

SYMPTOMS.

Weak heart; palpitation; vertigo; neuralgia; insomnia; impaired appetite and digestion; eyeballs of a bluish tint; countenance pale; urine pale.

TREATMENT.

Very thorough Treatment to Equalize the Circulation (page 114). Particular stress should be placed upon No. 1, being very thorough in the cervical and upper dorsal region, as it is here that we reach the nerves which control the assimilation. It is also advisable to give vibrations over the spleen, one of the sources of origin of the corpuscles.

Treatment should be given every other day, fifteen minutes. Improvement should be noticed after the first week, and a cure in from six to twelve weeks.

CHLOROSIS, OR GREEN SICKNESS.

(A form of anemia in young girls, occurring about puberty.)

SYMPTOMS.

Complexion of a yellowish-green hue; languor; weariness; neuralgia; pearly eyes; amenorrhea; and palpitation.

TREATMENT.

1. See Treatment to Equalize the Circulation (page 114). This treatment should be given in a very thorough, careful manner.

2. See Amenorrhea (page 475).

Treatment should be given every other day. Immediate benefit can be expected, and a cure effected in from two to three months.

THE LYMPHATIC CIRCULATION.

There exists generally within the tissues of the body a system of vessels, or channels, which contain the juices of the tissues, and within these vessels a fluid is always moving in a centripetal direction. These channels within the tissues arise in a variety of ways, uniting to form delicate and, afterward, thicker tubes in their course, which finally terminate in two large trunks which open at the junction of the jugular and subclavian veins. That on the right side is the **right lymphatic trunk**, and that on the left is the **thoracic duct**. This fluid is called the **lymph**, permeating every tissue in the body, bathing their constituent elements, supplying them with nutriment, and enabling them to dispose of the waste products resulting from their metabolism.

The lymph is collected and returned to the blood in special tubes, the **lymphatics**. They communicate freely with each other, at first forming thin-walled, microscopic lymphatic vessels, and by their confluence forming the **lymphatic veins**, which usually accompany the superficial and deep blood-vessels.

The **larger lymphatics** are provided with valves which open towards the heart. The walls are so thin and translucent that often the clear lymph which they contain may be seen.

The general **function** of the lymphatics is to collect the fluid that saturates the tissues and convey it back to the blood.

The capillary blood system may be regarded as a system of irrigation which supplies the tissues with nutrient fluid, while the lymphatic may be regarded as a drainage apparatus, conveying away the fluids that have passed through the capillary walls. The lymphatic represents an appendix to the blood-vascular system. A careful study of these conditions shows that there can be no lymphatic system when the blood-stream is completely arrested.

The **lymphatic glands** are incorrectly named, as they are merely many-branched lacunar labyrinthine spaces composed of adenoid tissue, intercalated in the course of the lymphatic vessels. The **simple lymph-glands**, or **lymph-follicles**, are small rounded bodies about the size of a pin-head.

The **compound lymphatic glands** are a collection of lymph-follicles, and are small oval or kidney-shaped bodies, varying much in size.

Lymph-glands not only form leucocytes, but in them, also, cells break down, and the products of their disintegration are taken up by the *leucocytes* and further changed by them.

It is estimated that the total amount of **lymph** and **chyle** passing through the large vessels in twenty-four hours is equal to the amount of blood; it will, therefore, be readily understood that a free and uninterrupted circulation of the fluids of the body is essential to a condition of perfect health.

Diseases of the Lymphatic System,

LEUCOCYTHEMIA, LEUKEMIA, OR WHITE BLOOD.

(Abnormal increase in the number of white corpuscles, with glandular enlargement.)

SYMPTOMS.

Enlargement of the spleen, liver, and lymphatic glands; dyspnea; diarrhea; edema; epistaxis; and febrile periods. More common in men than in women.

TREATMENT.

In the treatment of this disease, in addition to the Treatment to Equalize the Circulation (page 114), particular attention should be given to freeing the lymphatic circulation in the immediate vicinity of the enlarged glands. Manipulate the lymphatic glands carefully and thoroughly, rolling them between the finger and thumb, also work under them as deeply as possible. Place the hand lightly over the liver, if enlarged, and vibrate gently for three minutes. See Vibration (pages 36 and 67). Treat in a similar manner any other gland which may be enlarged. See Lymphadenoma (page 132).

Check the diarrhea by placing the knee in the back just below the last dorsal, and drawing the patient backward, pressing hard with the knee; hold a moment in this position. Place the hand over the bowels and vibrate gently for one or two minutes.

LYMPHADENOMA, HODGKIN'S DISEASE, OR PSEUDO-LEUKEMIA.

(Enlargement of the lymphatic glands and outer adenoid tissues, with diminution of red corpuscles and hemoglobin.)

SYMPTOMS.

Cervical glands usually first involved. Weakness; pallor; anorexia, loss of appetite; pyrexia, paroxysm of fever; spleen not so much enlarged as in Leucocythemia.

TREATMENT.

1. Thorough Treatment to Equalize the Circulation (page 114). Be very thorough and careful in cervical region to work as deep and strong as patient can conveniently stand.

2. Manipulate each of the enlarged lymphatic glands, rolling them beneath the fingers, working under them as much as possible.

3. Place the tips of the fingers upon the enlarged glands, vibrating hard and strong. See Vibration (pages 36 and 67).

It is remarkable how soon, if this treatment is given in a thorough, careful manner, the patient will show signs of recovery.

Treatment should be given every other day, and should occupy about fifteen or twenty minutes.

THE STOMACH.

The stomach is a sac-like, pear-shaped dilatation of the alimentary canal, between the esophagus and beginning of the small intestine. Its large end is directed above and to the left, to the diaphragm; its small end, below and to the right.

The mouth of the stomach is the **cardiac opening**, which passes from the esophagus like an inverted funnel without visible external limit. On the inner surface a definite line is seen between the esophagus and cardia; above the line the mucous membrane is whitish and made largely of pavement epithelium, while below the color is red and the mucous membrane shows characteristic cylindrical epithelium. Sometimes an external ring, as well as an internal projection, is found between the cardia and the rest of the stomach, forming a kind of *antrum cardiacum.*

Passing from the cardia to the left and above, we find the first great pouch, blind sac, or **fundus**, whose relative size varies with age. In early youth it is slightly developed; in the adult man it forms one-fifth of the stomach.

This continues on the right into the body of the stomach, which has two **surfaces**, anterior and posterior, and two **borders.**

At the right the body of the stomach gradually contracts towards its duodenal end.

The division between the stomach and intestine is marked externally by a circular constriction, *sulcus pyloricus*, and more deeply by a muscular ring, *sphincter pyloricus*, and internally by a corresponding projection of mucous membrane called *valvula pylorica*, or **pylorus.**

The valve usually presents a round opening, the *orificium duodenale*, which may have a central or eccentric position. It may not be an enclosing ring, but a crescentic projection, and rarely consists of two halves lying opposite each other.

The size of the stomach varies, according to age, sex, individual, and the degree of distension. A woman's stom-

ach increases more in length, is more slender, and is generally smaller than that of a man.

The stomach lies in the epigastric region and left hypochondrium, slightly in the right hypochondrium, about five-sixths to the left of the median line, and one-sixth to the right. Of the left segment, the greater part lies in the left hypochondrium—viz., the cardia, fundus, and the most curved part of the body. The rest of the body and a part of the pars pylorica fall in the left part of the epigastrium. The only part belonging to the right half includes a very small portion of the pars pylorica and the pylorus. The stomach lies under the diaphragm and liver, above the jejunum, ileum, and transverse colon, extending its greater part into the left hypochondrium, and its smaller part into the epigastrium, between the spleen on the left and the gall-bladder on the right. It does not lie transversely, unless in the infant, or in the female deformed by corsets. It is directed from above and the left downward and forward to the right. An empty stomach may hang nearly vertically, and present an anterior and posterior surface, but there is usually some obliquity. If the small intestines are much distended, it may be transverse, or, if rigor mortis be rapid, it may be cylindrical, especially below.

Movements of the Stomach.—When the stomach is *empty*, the great curvature is directed downward, and the lesser upward; but when the organ is *full*, it rotates on an axis running horizontally through the pylorus and cardia, so that the great curvature appears to be directed to the front, and the lesser backward.

The movements of the stomach are of two kinds: One is the **rotary or churning movement**, whereby the parts of the walls of the stomach in contact with the contents glide to

and fro with a slow rubbing movement. Such movement seems to occur periodically, every period lasting several minutes. By these movements the contents are moistened with the gastric juice, while the masses of food are partially broken up. (The formation of hair-balls in the stomachs of dogs and cattle indicates that such rotary movements of the contents of the stomach take place.)

The other kind of movement consists in a periodically occuring **peristalsis**, whereby, as with a push, the first dissolved portion of the contents of the stomach is forced into the duodenum, beginning after a quarter of an hour, and recurring until about five hours after a meal. This peristalsis is most pronounced towards the pyloric end, and the muscles of the pyloric sphincter relax to allow the contents to pass into the duodenum. The longitudinal muscular fibers, when they contract, especially when the pyloric end is filled, may act so as to dilate the pylorus.

The Nerves of the Stomach.—The stomach is supplied by nerve-fibers from the two vagi and the solar plexus. After forming the esophageal plexus, the left vagus descends rather anterior to, and the right posterior to, the esophagus, along which they continue to the stomach. The left supplies chiefly the lesser curvature and the anterior surface of the organ, together with branches to the liver and the duodenum. The right gives branches to the posterior surface of the stomach, about two-thirds of its fibers passing to the solar plexus.

From the solar or celiac plexus branches, composed chiefly of non-medullated fibers, constitute the gastric plexus of the splanchnic nerves along the gastric artery to the stomach, while they intermingle with the branches from the vagi under the peritoneal covering. Small ganglia exist in the

course of these nerves. Branches penetrate the coats of the stomach, along with the arteries and between the longitudinal and circular muscular coats.

Nerve-Influence on the Stomach.—Auerbach's ganglionic plexus of nerve-fibers and cells, which lie between the *muscular coats* of the stomach, must be regarded as its proper motor center, and to it motor impulses are conducted by the vagi. Section of both vagi does not abolish, but diminishes the movements of the stomach. The muscular fibers of the cardia may be excited to action, or their action inhibited, by fibers which run to the vagus. If the vagi be divided in the neck, there is a short temporary spasmodic contraction of the cardiac aperture. On stimulating the peripheral end of the vagus with electricity, after a latent period of a few seconds, the cardiac end contracts, more especially if the stomach is distended, but the movements are slight if the stomach be empty. Stimulation of the vagi in the neck causes contraction of the pylorus, when the latent period may be several seconds. Stimulation of the splanchnics in the thorax arrests the spontaneous pyloric contractions, the left splanchnic being more active than the right.

In the cardia are automatic gangliotic cells, which are connected with the vagus and sympathetic. The efferent channel for impulses seems to be through the vagi, and partly through the splanchnics. The center for the opening of the cardia lies in the anterior inferior end of the corpus striatum, and the conducting paths in the vagi. The cardia may be opened reflexly by stimulation of the sensory abdominal nerves of the kidney, uterus, or intestine.

The body of the stomach also possesses a few automatic ganglia in connection with the vagi and sympathetic. A center for its contraction lies in the corpora quadrigemina,

and the efferent paths lie in the vagi, but chiefly in the spinal cord, and from the latter into the sympathetic. **Inhibitory centers** lie in the upper part of the spinal cord, and the efferent paths are in the splanchnics.

The **pylorus** also contains automatic centers. The center for opening the cardia also inhibits the movements of the pylorus, the path being through the cord and splanchnic. **Inhibitory pyloric centers** lie in the corpora quadrigemina and olives; the paths are in the spinal cord. The centers in the cortex for opening the cardia at the same time contract the pylorus. The **contraction centers for the pylorus** lie in the corpora quadrigemina.

VOMITING.

Vomiting is caused by contraction of the walls of the stomach, the pyloric sphincter being closed. It occurs more readily when the stomach is distended. Dogs usually greatly distend the stomach by swallowing air before they vomit. It readily occurs in infants, in whom the cul-de-sac at the cardia is not developed. It is quite certain that in children vomiting occurs through contraction of the walls of the stomach, without the spasmodic action of the abdominal walls. When vomiting is violent, the abdominal muscles act energetically. Vomiting is generally preceded by a feeling of nausea, and usually there is a rush of saliva to the mouth, caused by a reflex stimulation of the afferent fibers in the gastric branches of the vagus; the efferent nerve for the secretion of saliva being the corda tympani. After this, a deep inspiration is taken and the glottis closed, and a violent expiratory effort is made, so that the contraction of the abdominal muscles acts upon the contents of the abdomen, the stomach being forcibly compressed. The cardiac orifice

is open at the same instant, and the contents of the stomach are ejected.

The center for the movements concerned in vomiting lies in the medulla oblongata, and is in relation with the respiratory center, as is shown by the fact that nausea may be overcome by rapid and deep respiration.

In vomiting, the afferent impulses may be discharged from the mucous membrane of the soft palate, pharnyx, root of the tongue—glosso-pharyngeal nerve—as in tickling the fauces with the finger; the nerves of the stomach—vagus and sympathetic—stimulation of the uterine nerves; the mesenteric nerves; nerves of the urinary apparatus; nerves to the liver and gall-duct; and nerves to the lungs—vagus. Vomiting is also produced by *direct* stimulation of the vomiting centers. The efferent impulses are carried by the phrenics to the diaphragm; by the vagus to the esophagus and stomach; and by the intercostal nerves to the abdominal muscles.

Vomiting produced by the thought of something disagreeable appears to be caused by the conduction of the excitement from the cerebrum to the vomiting center. It may also be excited through the brain by a disagreeable smell, a shocking sight, or by other impressions on the nerves of special sense. Vomiting is very common in diseases of the brain.

THE INTESTINES.

The intestinal canal is in the form of a curved tube, passing uninterruptedly from the pylorus to the anus. Its length is about six times the height of its possessor, though in the adult it may be independent of the age, weight, or height. Vegetarians may have a longer intestine than those living on a mixed or flesh diet. This canal is divided into the Small

Intestine, the upper four-fifths; and the lower one-fifth, the Large Intestine.

Small Intestine.—This is that part of the alimentary canal extending from the pylorus to the ileo-cecal valve. Its average length is about 22 feet, the extremes being 34 feet and 8 feet. Its circumference decreases from the stomach towards the large intestine. The small intestine is divided into three parts, the *Duodenum*, the *Jejunum*, and the *Ileum*. The wall of the ileum is so thin and translucent that a newspaper may be read through it.

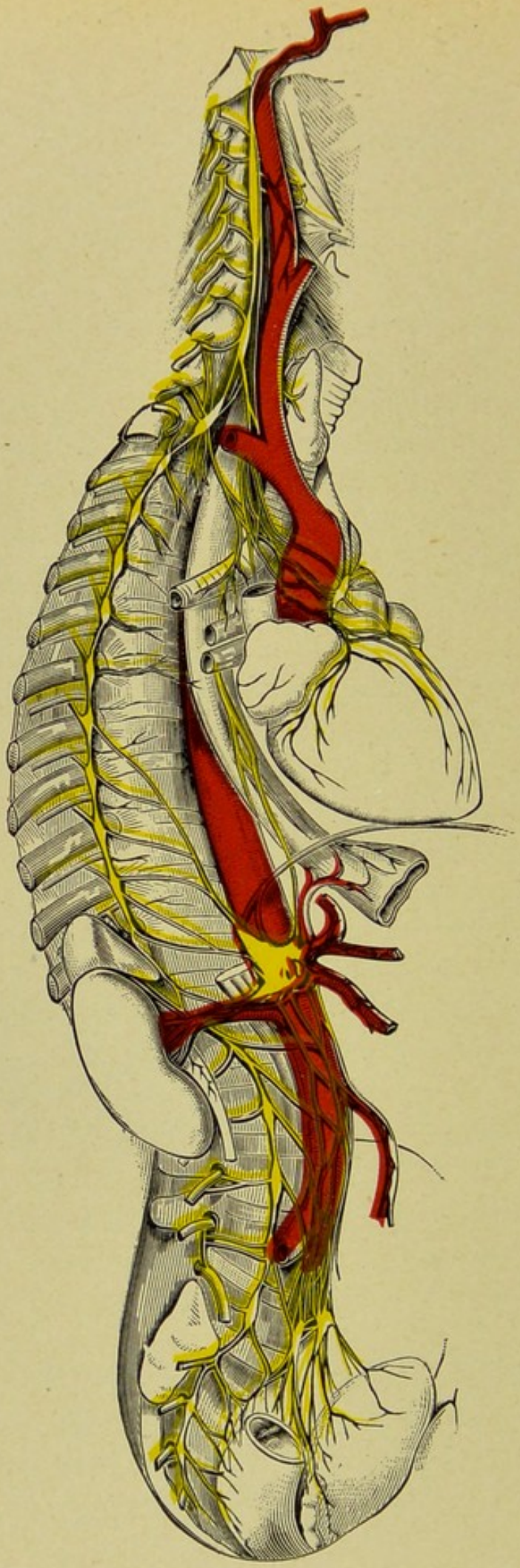
Large Intestine.—The large intestine extends from the termination of the ileum to the anal orifice, differing from the small intestine in its larger size, more fixed position, sacular form, and appendices epiploicæ. It is about 5 or 6 feet in length. Its circumference decreases from beginning to end, except at the ampulla of the rectum. In its course the large intestine describes a horseshoe-shaped arch, which surrounds the convolutions of the small intestine. It begins in a blind sac in the right iliac fossa, ascends along the right posterior abdominal wall to the right hypochondrium, where it is connected with the under surface of the liver. It here bends to the left, and takes a transverse, somewhat ascending, course to the spleen. In the left hypochondrium it bends again, and descends along the left posterior abdominal wall to the left iliac fossa, then becomes convoluted, as the sigmoid flexure. It enters the pelvis, and descends as the rectum, along its posterior wall to the anus. It is divided into the *Cecum*, *Ascending Colon*, *Hepatic Flexure*, *Transverse Colon*, *Splenic Flexure*, *Descending Colon*, *Sigmoid Flexure*, and *Rectum*.

Movements of the Intestines, Peristalsis.—The best example of peristaltic movements is afforded by the small

intestine; the progressive narrowing of the tube proceeds from above downward, thus propelling the contents before it. Frequently, after death, or when air acts freely upon the gut, the peristalsis develops at various parts of the intestine simultaneously, whereby the loops of the intestine present the appearance of a heap of worms creeping among each other. The advance of new intestinal contents again increases the movement. In the large intestine the movement is more sluggish, and less extensive. Peristaltic movement may be seen and felt when the abdominal walls are very thin, and also in hernial sacs. They are more lively in vegetable feeders than in carnivorous. The movements of the stomach and intestines cease during sleep.

Nerve-Influence on the Intestines.—Stimulation of the vagus increases the movements of the small intestine, either by conducting impressions to the plexus mesentericus, or by causing contraction of the stomach, which stimulates the intestine in a purely mechanical manner. The splanchnic is the inhibitory nerve of the small intestine only as long as the circulation in the intestinal blood-vessels is undisturbed and the blood in the capillaries does not become venous. When the latter condition occurs, stimulation of the splanchnic increases the peristalsis. If arterial blood be freely supplied, the inhibitory action continues for some time. Stimulation of the origin of the splanchnics of the spinal cord in the dorsal region, under the same conditions, and even when general tetanus has been produced by the administration of strychnine, causes an inhibitory effect.

It is believed that the splanchnic contains, besides the inhibitory fibers, which are easily exhausted by a venous condition of the blood, motor fibers, which remain excitable



CUT 15.—The Sympathetic Nerve.

for a longer time, because, after death, stimulation of the splanchnics always causes peristalsis, the same as stimulation of the vagus. It is the vaso-motor nerve of the intestinal blood-vessels, governing the largest vascular area in the body. When it is stimulated, all the vessels of the intestine, which contain muscular fibers in their walls, contract; when it is divided, they dilate. In the latter case a large amount of blood accumulates within the blood-vessels of the abdomen, so that there is anemia of the other parts of the body, which may be so great as to cause death, owing to the deficiency of blood in the medulla oblongata.

Effect of Nerves on the Rectum.—The nervi erigentes, when stimulated, causes the longitudinal muscular fibers of the rectum to contract, while the circular muscular fibers are supplied by the hypogastric nerves. Stimulation of the hypogastric also exerts an inhibitory effect on the longitudinal muscles. Stimulation of the nervi erigentes inhibits not only the spontaneous movements of the circular fibers of the rectum, but also those movements excited by stimulation of the hypogastric nerves.

Excretion of Fecal Matter.—The contents of the small intestine remain in it about three hours, and about twelve hours in the large intestine, where they become less watery, and assume the character of feces. The feces are gradually carried along with the peristaltic movement until they reach a point a little above that part of the rectum which is surrounded by both sphincter muscles.

Immediately after the expulsion of the feces, the external sphincter usually contracts vigorously and remains so for some time; afterwards it relaxes, when the elasticity of the part surrounding the anal opening, particularly the two sphincters, suffices to keep the anus closed. In the interval

between two evacuations there does not seem to be a continuous tonic contraction of the sphincter. As long as the feces lie above the rectum, they do not excite any conscious sensation. The sensation of requiring to go to stool occurs when the feces pass into the rectum; at the same instant the stimulation of the sensory nerves of the rectum causes a reflex excitement of the sphincter. The center for these movements lies in the lumbar region of the spinal cord.

EXPLANATORY.

Our object in entering thus briefly into the anatomy of the above named organs is to prove to our readers by such standard works as Gray and Landois the intimate relation existing between the alimentary canal and the nervous system. We will endeavor to prove to the satisfaction of the most skeptical that the human system is a machine governed by the great dynamo, the brain, reinforced and assisted by numerous nerve-centers; that an obstruction of undue pressure upon any nerve or nerve-center, from any cause, breaks the circuit, and causes partial or complete paralysis of the part controlled by the nerve involved, and consequent disease. We also expect to prove that irritation, or undue stimulation from any cause, to the brain, nerve-centers, or any nerve, has the opposite effect, and consequent disease in a different form.

If the osteopath, by a thorough knowledge of anatomy and physiology, can remove the cause by skillful manipulation, thus equalizing the forces, health will be the inevitable result in all cases where the disease has not reached a stage in which the tissues are hopelessly destroyed. This last proposition all unprejudiced, fair-minded physicians will admit.

While we cannot agree with the discoverer of Osteopathy, that in all cases of **constipation** a **rib** is **dislocated**, pressing upon the splanchnic nerve, and thereby causing constipation and kindred troubles, we believe there are instances where such is the case, and that by reducing the dislocation we turn on the current from the brain, thereby starting the peristaltic action of the bowels, which immediately move.

It is always advisable, in **examining** the patient, to first satisfy yourself that the framework is in line, as very many diseases have been traced to a partial or complete **dislocation**, obstructing the nerve-wave or blood-supply, perhaps, to a distant part; and a speedy cure effected by reducing the dislocation.

It has been our experience that the **muscles** are usually at fault, and we believe that Dr. Still and his associates, in a vain attempt to reduce an **imaginary dislocation**, accidentally stretch the right muscles, thereby freeing the obstructed nerve-wave or blood-supply.

It is always well, in endeavoring to **ascertain the cause** of any **disease of the thorax or abdomen**, (1) to place the patient upon the face, and carefully examine the spine and ribs for dislocations; (2) beginning at the atlas, with one finger on each side of the spine, move the hand downward, slowly and gently. If careful, we are very apt to discover, upon one or possibly both sides of the spine, an irregularity in the temperature, which must be equalized by a skillful manipulation, if we hope to obtain satisfactory results; (3) once more beginning at the cervicals, and moving the hand down the spine in a similar manner, working more deeply, we are very liable to discover contraction of the muscles, which may be detected by their hard, cord-like, knotty condition. By referring to cut 15, and carefully inspecting it, the reader will begin to realize how utterly impossible it would

be for the brain to control the various organs of the body, unless the muscles which surround and assist in protecting this delicate piece of mechanism—the nervous system—are in a perfect and normal condition; one had as well expect an uninterrupted telephone service immediately after a cyclone, when the wires are crossed, broken, and covered with fallen timbers. By a thorough understanding of anatomy, the osteopath is enabled to so manipulate the muscles at fault as to restore harmony of action.

It would be impossible to lay down a set of manipulations that could be correctly applied in all the complications arising in various cases. A great deal must depend upon the good judgment of the operator. Anyone at all familiar with anatomy and physiology may hope to attain very gratifying results in almost all **diseases of the stomach and intestines** by keeping in mind the fact that we must not only have a free and uninterrupted circulation of blood, but must have a free and uninterrupted circuit of nerve-wave between the brain and each muscle and organ of the system.

Take, for instance, the **solar plexus**, or "Great Abdominal Brain," formed by the pneumogastric and splanchnic nerves; is it not reasonable to suppose that any obstruction or pressure upon either of these nerves, breaking the circuit with the brain, would cause **constipation or torpid liver**, or that an undue stimulation or irritation might cause **diarrhea or bloody flux**? Is it not equally reasonable to suppose that to remove the cause in the same common-sense and methodical manner in which the telephone company adjusts its wire would cure the disease?

After locating the cause of the trouble, the operator will have the best success who applies the manipulation, or combination of manipulations, which seems best adapted to the case in question.

Diseases of the Stomach, Intestines, and Peritoneum.

CONSTIPATION.

(Sluggish action of the bowels.)

EXPLANATORY.

While we admit that constipation is not desirable, and may almost invariably be avoided, yet persons thus predisposed are generally long-lived, unless they commit suicide by purgative medicines, while those who are subject to frequent attacks of diarrhea are soon debilitated. A daily action of the bowels is no doubt desirable in most cases, but by no means invariably so. An evacuation may take place daily, or every second day, or even every third day, in persons who are equally healthy. There is no invariable rule applying to all persons. **Purgation** produced by drugs is an unnatural condition, and although temporary relief often follows the use of **aperients**, they tend to disorganize the parts on which their force is chiefly expended. The intestinal canal is not a smooth, hard tube, through which can be forced whatever it contains without injury; it is part of a living organism, and needs no force to propel its contents on their way; nor can such force be applied with impunity. Not only does the frequent use of purgatives overstimulate the liver and pancreas, but also and especially the numerous secretory glands which cover the extensive surface of the intestinal canal, forcing them to pour out their contents in such excessive quantities as to weaken and impair their

functions, produceing a state of general debility, and thus suspending the normal action of the stomach and intestinal canal.

SYMPTOMS.

Nausea, vomiting, griping, and even fainting, are produced; the brain and vital energies are disturbed, occasioning lowness of spirits and melancholy, alternating with mental excitement and peculiar irritability of temper.

CAUSE.

We will now endeavor to prove to the satisfaction of our readers that, viewing man as a machine, constipation can be traced to its true cause, and cured by an application of the never-failing principles of Osteopathy. The digestive organs in constipation may be compared to an electric car with the current partially cut off; with a light load it might possibly work in a feeble, halting manner, while the slender wire transmits the power to move the heavy car. The dynamo generates that power; break the connection, and the car stops. So in the human being; the brain is the great generator, the center of all power. Stop for one instant the current on these slender nerves, and the heavy muscles of the giant are weaker than those of a tiny child. There is one peculiarity about the nerves which is liable to lead one astray, and that is the fact that a pressure on the main trunk of a nerve causes no pain at that point, but at the *extremity* of the nerve.

In constipation we find the intercostal and spinal muscles contracted from the fifth dorsal vertebra and fifth rib to the eighth. The sixth or seventh rib may be turned slightly, and either the muscles or rib pressing on the splanchnic nerves (which, with the pneumogastric, control the digestive organs), thus depriving the intestines of half

their motor power. Taking physic for constipation is like whipping a weak, half-starved horse. He will go just as long as you continue to apply the whip, but is left in a more enfeebled condition after each application of the lash. Would it not be more human and sensible to increase his feed and reduce his load, as we now propose doing with the splanchnic nerve?

By relaxing the contracted muscles we not only allow the ribs to spring back, thus releasing the nerve, but also permit the blood to pass down and supply the nerve with food, and in a comparatively short time it will be able to once more convey the current that will start the *peristaltic action* of the bowels, and also furnish a motor power to the sluggish liver and pancreas, enabling these organs to resume their work. As an obstruction to the nerve-force of the splanchnic system not only weakens the peristaltic action of the bowels, but also the action of the liver: that great chemical laboratory, placed on the highway by which the great majority of material absorbed from the intestines reaches the blood, it is obviously in a position to act as the guardian of the blood's purity and health. It certainly in some respects performs this duty, for many poisons, when introduced into the digestive tract, are stopped by the liver, and, if their amount be not excessive, are eliminated with the bile. But we have reason to believe that this enormous mass of protoplasm is placed in this peculiar position in the circulation to preside over much more important duties than that of a mere gatekeeper. Many if not all of the absorbed materials are found to be altered during their visit to the liver. In fact, we must regard this organ as the great chemical laboratory of the blood, where many important analyses are made. It has an immense double blood-supply; it receives all the blood of the portal veins coming from the

digestive tract and spleen. This supply of blood varies much in amount; *after meals*, it equals one-fourth of all the blood in the body. Among the many important functions of the liver are the formation of the urea and uric acid and the secretion of the bile. Its failure to supply in sufficient quantities the latter (which is mixed in the abdomen with the pancreatic juice, to assist in digesting the food) is one of the secondary causes of constipation; another is the inability of the pancreas, through lack of nerve-force, to do its part in furnishing pancreatic juice. Thus, when we turn the current on the splanchnic, we start a three-horse team, which, pulling together in perfect harmony, will safely carry our constipated friend to the highway of perfect health.

EXAMINATION.

Make careful examination of the spine to ascertain the cause of the trouble. The ribs, in the normal condition, should present a flat surface and be an equal distance apart. If one is turned partially on its side, presenting its edge, as is very often the case, we have discovered the cause of a multitude of evils; if pressing either directly or indirectly upon the splanchnic, it cannot fail to produce constipation, while its pressure upon the intercostal nerve, artery, and vein produces other complications; neither is the pressure of its edge upon the vital organs which it is supposed to protect pleasant to contemplate. If physicians would make this examination in chronic cases which had failed to respond to drugs, they would be surprised at the number of cases in which this condition exists.

TREATMENT.

To set the rib, place the patient on the side; with the thumb of one hand upon the angle of the rib at fault, place the thumb of the disengaged hand upon the edge of the rib

Cut 16.—Reducing Dislocation of Rib.

at about its middle; have the patient inhale, filling the lungs to their utmost capacity, while an assistant draws the arms high above the head.

It will be observed that the pectoralis major attaches to the seven or eight upper ribs, and to the humerus at the external bicipital ridge; thus the arm can be used as a lever to pull any of the upper ribs into line; at the instant the arm is thrown backward to be lowered, while the assistant is pulling hard, and patient's lungs are expanded, spring the rib forward by a hard pressure of the thumb upon its angle; at the same instant a pressure of the thumb upon its edge will turn it into position (cut 16). This treatment may not necessarily occasion much pain, and should be continued, making two or three trials each treatment, until the dislocation is reduced, providing it is stubborn and fails to respond promptly to the first treatment. The time required to set the rib will depend much upon the skill of the operator and length of time that the rib has been in an abnormal position.

In all cases where the difficulty is traced to an **abnormal temperature** in the spinal column, or **contraction of muscles**, thus affecting a nerve-center, the following accessory treatment should be given. This treatment should also be given where a **rib is turned** or **partially dislocated.**

ACCESSORY TREATMENT.

1. Place the patient on the side, and proceed to free all the muscles of the spine on each side as low as the twelfth dorsal vertebra. Let the arm of the patient rest on that of the operator, the patient's elbow pressing against the humerus, forming a lever with which the muscles of the scapula can be manipulated. With the fingers between the spine and scapula, pressing hard, move the scapula and mus-

cles under the fingers upward (see cut 7), being particular not to let the hand slip over the muscles, but to move them. After each upward motion, move the fingers down an inch, until the last dorsal vertebra is reached, taking care not to work lower than the last rib.

2. With the patient lying on the back, grasp the right wrist with the right hand, drawing the arm slowly but with some strength high above the head, at the same time placing the left hand between the shoulder-blades on the right side of the spine, about two inches below the upper part of the shoulder-blades, pressing hard as the arm comes up; lower the arm, the elbow passing below and at the side of the table. Repeat, moving the hand down the spine one inch every time, until you have reached the tenth dorsal vertebra, which will be found one inch below the inferior angle of the scapula. This excites and **stimulates the splanchnic nerve.**

3. Knead the bowels (cut 17), beginning on the right side and at the lower portion of the abdomen, close to the bone, and immediately over the ileo-cecal valve. Work lightly at first, gradually using more strength, following the ascending colon upward from its commencement at the cecum to the under surface of the liver on the right side of the gall-bladder, where it bends abruptly to the left, forming the hepatic flexure; it now becomes the transverse colon, and passes transversely across the abdomen from right to left, where it curves downward beneath the lower end of the spleen, forming the splenic flexure. The descending colon passes almost vertically downward to the upper part of the left iliac fossa, where it terminates in the sigmoid flexure. The sigmoid flexure is the narrowest part of the colon. It is situated in the left iliac fossa, commencing at the termination of the descending colon at the margin of the crest of

the ilium, and ending in the rectum opposite the left sacro-iliac symphysis. Work across the abdomen, following the transverse colon and down the descending and sigmoid portions to the rectum. Next knead the small intestine, which is contained in the central lower part of the abdominal cavity, surrounded above and at the sides by the colon or large intestine.

4. Place the patient upon the back; with one hand upon the ribs, over the liver, press them down several times quite strongly, holding them a moment in this position before slowly removing the pressure, thus starting the circulation in and through the liver. Work as deeply as possible with the fingers over the liver, under the ribs, raising them gently. Also carefully knead and manipulate the gall-bladder, endeavoring to empty its contents into the duodenum.

5. Place the hand lightly over the liver, vibrating gently for two minutes. See Vibration (pages 36 and 67).

6. Place the patient upon the back; and with the hand under the chin, pull the head backward to the right and left, thus stretching the muscles, and freeing as much as possible the pneumogastric nerve, which so largely controls the digestive organs. It is also well to manipulate, thorough and deep, the muscles on the front and sides of the neck, the object being to remove all obstructions, and equalize as much as possible the nerve-wave between the brain and solar plexus.

This treatment should be given every other day, and can be administered in fifteen minutes. It will cure the most stubborn cases of constipation or torpid liver. Care should be taken to work as deep and as far under the ribs as possible. Children and young people are often cured in a single treatment, but the average time required for a cure

is from two to six weeks. In very stubborn cases it is well to flush the bowels once or twice, until Nature begins to act. This treatment, if applied as directed, will be found infallible.

ACUTE GASTRITIS, OR INDIGESTION; CHRONIC GASTRITIS, OR DYSPEPSIA.

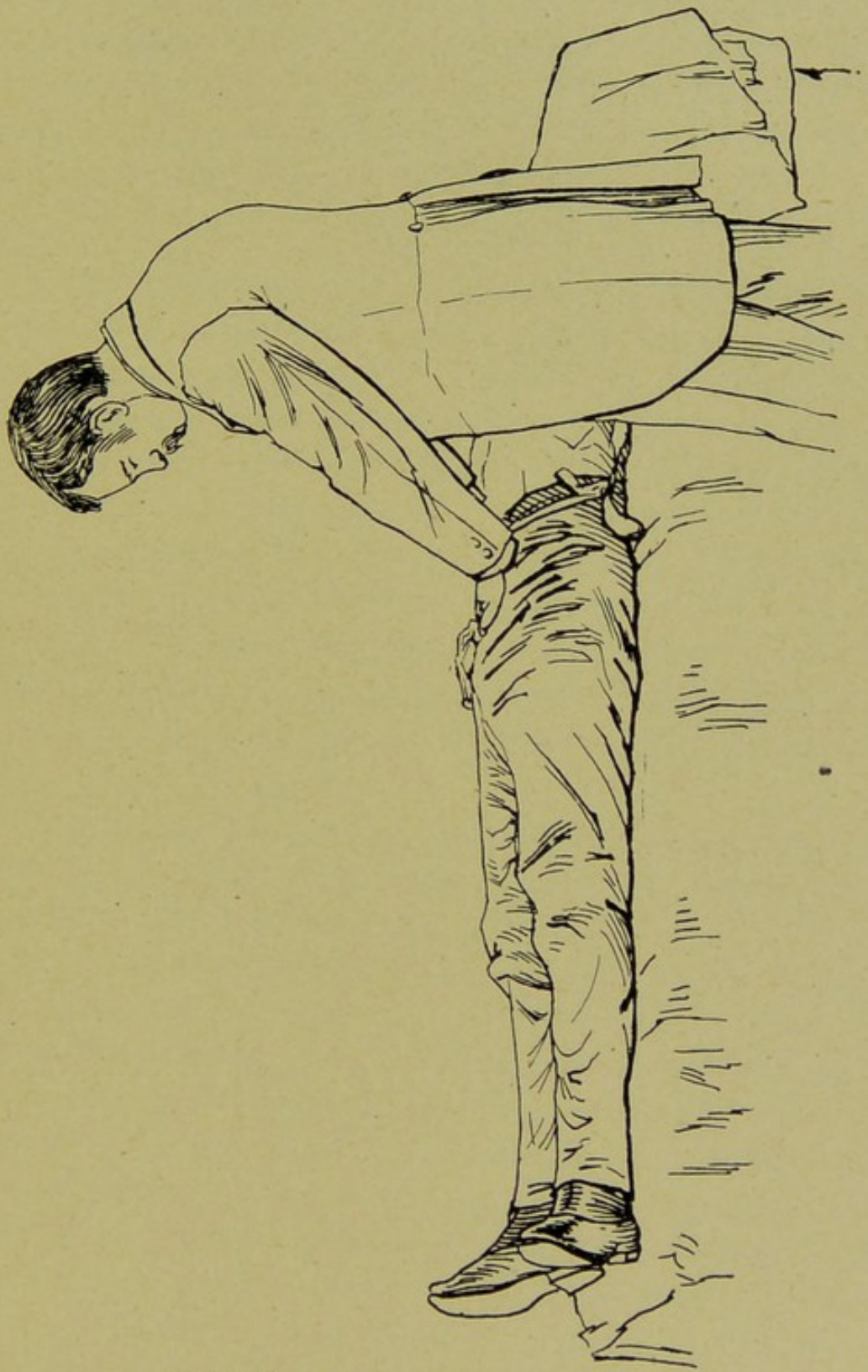
(Inflammation of the stomach, characterized by difficulty or failure in changing food into absorptive nutriment.)

SYMPTOMS.

These vary greatly, both in character and intensity, but there is commonly one or more of the following: impaired appetite, flatulence, and nausea; eructations, which often bring up bitter or acid fluids; furred tongue, often flabby, large, or indented at the sides; foul taste or breath and heart burn; pain and a sensation of weight and inconvenience or fullness after a meal; irregular action of the bowels; headache, diminished mental energy and alertness, and dejection of spirits; palpitation of the heart or great vessels, and various affections in other organs.

CAUSE.

Dyspepsia, or indigestion, is usually caused by a constipated condition of the bowels, which, becoming overloaded, hinder the action of the stomach until the glands of that organ become diseased. Thus we are again confronted with the parallel of an electric car, which, having lost its current, obstructs the main track. We expect to prove to the inteiligent reader that when the peristaltic action of the small intestine loses part of its nerve-power, occasioned by a pressure on the splanchnic center at or near the spine, the foundation is laid not only for constipation, *liver* complaint, and various *stomach* and *kidney* troubles, but by blocking the main track, one organ after another becomes diseased,



CUT 17.—Kneading the Bowels.

and finally the stomach, bloated or filled with gas, presses so hard upon the diaphragm, compressing the left lung, that it affects even the *lungs* and *heart.* Many cases of heart trouble we have traced directly to this cause, and cured by working on these never-failing principles.

TREATMENT.

1. Place the patient on the side; with the fingers of both hands upon the spine, beginning at the upper cervicals, move the muscles upward and outward, very deep and thoroughly, as low as the last dorsal (see cut 7). Tender spots will usually be found between the second and sixth dorsal, over the nerves of assimilation, and should be treated thoroughly. As soon as the soreness begins to disappear, the patient will commence to recover. Careful investigation in the immediate region where the tenderness is discovered will usually enable the operator to detect some slight contraction in the deep muscles, thus obstructing the circulation, and producing a congested condition.

2. Place the hand gently over the stomach and vibrate (pages 36 and 67) strongly two minutes, thus stimulating the circulation through that organ.

3. In all cases where constipation is present, beginning at the cecum, manipulate the colon very thoroughly and carefully, following it its entire length to the rectum, endeavoring to manipulate and move forward any hardened lumps of feces that may be discovered. Also manipulate the gall-bladder and liver. See Constipation (page 150).

4. Stand behind patient, and, raising the right arm high above the head, lifting strong, press hard with the thumb on the fourth dorsal vertebra, lowering the arm with a backward motion. This pressure reaches the nerves that control the pyloric valve, causing, after a few treatments,

the pyloric orifice to permit the escape of gases and undigested food into the duodenum.

5. With left hand under patient's chin, draw the head backward and to the side; with the right manipulate the muscles of the neck, thereby freeing the pneumogastric nerve (cut 18).

This disease is usually caused by a complication of troubles, all of which must be removed before we can hope to effect a cure. A great deal, therefore, depends upon the good judgment of the operator in discovering the real cause, and employing such treatment as will reach the conditions as they exist.

6. In all cases of fever, hold the vaso-motor two or three minutes. See Vaso-motor (page 253).

GASTRALGIA.

(Neuralgia of the stomach.)

SYMPTOMS.

Spasmodic pains, shooting and shifting, usually brief in duration, and may be relieved by vomiting or belching.

TREATMENT.

1. Place the patient on the back; if there are any indications of constipation, give thorough treatment for same (page 150).

2. Place the hand lightly over the sternum, and vibrate (pages 36 and 67) gently for three minutes.

3. Place the patient on a stool; and with the thumbs upon the angles of the fifth pair of ribs, have an assistant standing in front, raise the arms high above the head, lifting quite strong, as the patient fills the lungs with air; press hard with the thumbs as the arms are lowered with a back-

Cut 18.—Freeing and Stimulating Pneumogastric Nerve.

ward motion, patient permitting the elbows to bend, as the arms are pressed quite strongly backward and downward. This treatment *stretches* the *muscles*, *frees* the intercostal nerves, *arteries*, and *veins*, at the same time acting upon the *splanchnic nerves*. Place the thumbs upon the next two lower ribs, raise the arms as before, and repeat until the tenth dorsal is reached.

4. Place the patient on the back; with one hand under the chin, draw the head backward, rotating it from side to side, at the same instant manipulating the muscles over the pneumogastric with the disengaged hand (cut 18). It is also advisable to place one hand under the occipital, the other under the chin, and give gentle extension.

This treatment usually gives immediate relief, and a continuation of the same once each day, occupying about fifteen minutes, a speedy cure.

GASTRECTASIA.

(Dilatation of the stomach, due to obstruction of the pyloric orifice.)

SYMPTOMS.

Heart dislocated, action rapid; upper portion of the abdomen enlarged; pressure on the surrounding structures; palpitation; difficult breathing; and inability to remove the gas.

TREATMENT.

In this disease, while we can hardly hope to effect a cure, the patient can often be greatly benefited by the following treatment:

1. Place the patient upon the left side; an assistant holding the hip, draw the right arm slowly but strongly

above the head, holding it in this position for a moment: lower the arm with a backward motion, pressing hard with the thumb of the disengaged hand upon the fourth dorsal vertebra; repeat this operation, pressing hard the second time upon the fifth dorsal.

2. Place the patient on the back; the hand of the operator resting lightly, as near as possible, over the pyloric orifice, vibrate (pages 36 and 67) strongly for three minutes.

3. Place the patient upon a stool; the knee of the operator between patient's scapulæ, grasp the patient's wrists, and draw the arms slowly but strongly high above the head, pressing hard with the knee as the arms are lowered with a backward motion (cut 5). Repeat this operation two or three times, as it expands the chest and relieves the difficult breathing.

This treatment should be given every day, and occupy about ten minutes.

GASTRIC CARCINOMA.

(Cancer of the stomach.)

SYMPTOMS.

Loss of appetite, flesh, and strength; the vomitus is dark and streaked with blood.

No cure in Osteopathy.

GASTRIC ULCER.

(Ulcer of the stomach.)

SYMPTOMS.

Annoying and burning pain, confined to small area in the epigastrium; pain increased by food, and relieved after digestion or by vomiting; pain and tenderness near the spinal column, opposite the site of the epigastric pain.

TREATMENT.

1. Place the patient on the side; beginning at the upper cervicals, move the muscles upward and outward the entire length of the spinal column, deeply but gently, being very thorough in the dorsal region, and particularly thorough and gentle in the immediate region of all spots where tenderness exists along the spinal column.

2. Place the hand under the chin, and draw the head backward, rotating it from right to left; with the disengaged hand manipulating the muscles immediately over the pneumogastric nerve.

3. Place the hands under the shoulders of the patient, an assistant grasping the ankles, and give thorough and strong extension of the spinal column, as this extension, together with the two preceding treatments, tends to stimulate and equalize the nerves which control the alimentary canal.

4. Place the hand lightly and as near as possible over the ulcer, and vibrate (pages 36 and 67) gently for three or four minutes.

This entire treatment should not occupy over ten or fifteen minutes; should be administered each day; and if given correctly, will produce very gratifying results.

GASTRIC NEUROSIS.

(Functional derangement of the stomach, due to impairment of motor or sensory powers, or secretions.)

SYMPTOMS.

Manifestations of hysteria; feeling of fullness, tension, and nausea; sensation of heat or cold, annoying or pulling; may be relieved by food, apt to be aggravated by fasting, or restriction of diet.

TREATMENT.

1. See 1, 2, and 3, Treatment for Gastric Ulcer (page 165).

2. Flex the limbs strongly against the chest, abducting and adducting them several times and extending with a light jerk. This treatment starts and increases the circulation to the limbs.

Should the patient be constipated, apply Constipation Treatment (page 150).

3. Place the patient upon a stool; operator placing knee between the shoulders, draw the arms strongly above the head two or three times as the patient inhales; lower the arms with a backward motion, pressing hard with the knee as the shoulders are forced backward. This treatment is very beneficial, as it expands the chest and frees the circulation.

4. Place the hand on the stomach and vibrate (pages 36 and 67) gently two or three minutes.

In case of fever, place the hands upon the sides of the neck, the fingers almost meeting over the spinal processes of the upper cervicals, and press gently two or three minutes on the vaso-motor center (page 253).

This treatment will occupy about fifteen or twenty minutes; should be administered every other day. We should expect to see a decided improvement after the first few treatments, a continuation of which will effect a cure.

GASTRIC VERTIGO.

(Dizziness, usually associated with disorders of the stomach.)

SYMPTOMS.

In acute form there is coldness; objects appear to go round and round; patient reels; seasick feeling; may vomit·

face pale; pulse feeble; vision blurred. In chronic form there is headache; noise in the ears; feeling of reeling and dizziness.

TREATMENT.

See General Treatment.

ACUTE ENTERITIS.

(Inflammation of the small intestine.)

SYMPTOMS.

Colicky pains about the umbilicus; urine highly colored and scanty; tenderness over the abdomen; diarrhea.

TREATMENT.

1. Very gentle but thorough kneading of the bowels, being very particular to work from left to right, as this treatment not only assists in checking the diarrhea, but starts the circulation, thereby assisting in reducing the inflammation in the small intestine. (Treating from *left to right* assists in checking the peristaltic action of the bowels, and diarrhea. Manipulating the bowels from *right to left* assists in increasing the peristaltic action, and should be always given in constipation.)

2. Place the hand lightly over the intestine, and vibrate (pages 36 and 67) gently two or three minutes.

3. Standing at the side of the bed or table, place the arms around patient's body, the ends of the fingers pressing upon each side of the spine in the lumbar region and immediately below the last dorsal vertebra; raise the patient gently until only the shoulders and limbs touch the bed (cut 19); hold in this position a moment, and repeat. This treatment seems to get the body in such a position as to throw a direct pressure upon the solar plexus, thereby obstructing the

nerve-wave to the bowels and checking the peristaltic action.

4. Drawing the arms slowly but strongly above the head, pressing strongly upon the fourth or fifth dorsal vertebra as they are lowered with a backward motion, will almost instantly check the colicky pains in the region of the umbilicus.

5. In this disease we often discover the lumbar region in a very sensitive condition, in which case the muscles of this region on each side of the spine should be manipulated, moving them upward and outward gently but deeply. The soreness will immediately begin to disappear, and with it the urine will resume its normal quantity and color.

In all cases of fever hold the vaso-motor two or three minutes after each treatment (page 253).

This treatment, which must be given in a very gentle and careful manner, occupying fifteen or twenty minutes each day, should give the patient immediate relief.

CHRONIC ENTERITIS, OR INTESTINAL CATARRH.

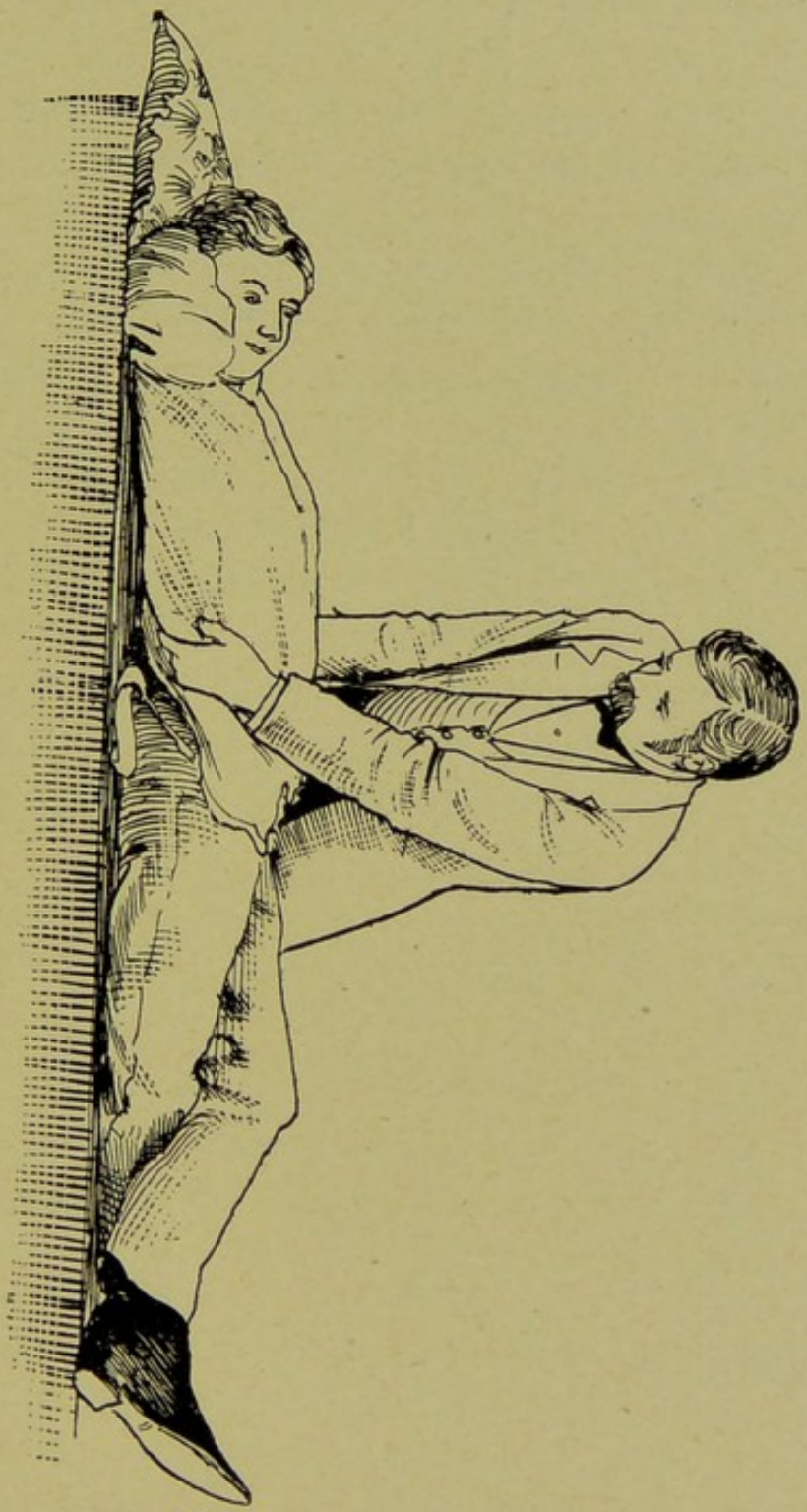
(Usually follows acute attacks.)

SYMPTOMS.

Sallow complexion; constipation, alternating with diarrhea; stools containing undigested food; headache; impaired nutrition; colicky pains; and abdomen distended.

TREATMENT.

1. Place the patient on the side; beginning at the upper cervicals, move the muscles upward and outward, gently but deeply, the entire length of the spinal column, being very particular to treat thoroughly in all regions where any tenderness is discovered. Stimulation in this manner over all the nerve-centers the entire length of the spinal



Cut 19.—Diarrhea Treatment.

column tends to equalize the nerve-wave to the various organs.

2. Place the patient on the back; with the hand under the chin, draw the head backward, rotating it from side to side, with the disengaged hand manipulating the muscles immediately over the pneumogastric nerve.

3. In all cases where constipation is present, a light Constipation Treatment (page 150) should be given. In cases of diarrhea, give a light treatment for the same (page 182); the object being to equalize the action of the bowels.

4. Drawing the arms strongly above the head two or three times, at the same instant pressing hard upon the fourth or fifth dorsal vertebra, will relieve the colicky pain.

This treatment will occupy about fifteen minutes; will usually give immediate relief; and should be given every other day until complete recovery is effected.

CHOLERA MORBUS.

(Inflammation of the stomach and intestines, resulting from an irritating diet.)

SYMPTOMS.

Cholera morbus is a violent purging and vomiting, attended with gripes and a constant desire to go to stool. It comes on suddenly, and is most common in autumn. There is hardly any disease that kills more quickly than this when proper means are not used in due time for removing it. It is generally preceded by heartburn, sour belchings, and flatulence, with pain in the stomach and intestines; to these succeed excessive vomiting and purging of green, yellow, or blackish colored bile, with distension of the stomach and violent griping pains. There is likewise great thirst, with a very quick unequal pulse, and often a fixed acute pain

about the region of the navel. As the disease advances, the pulse often sinks so low as to become quite imperceptible; the extremities grow cold or cramped and are often covered with a clammy sweat, the urine is obstructed, and there is palpitation of the heart. Violent hiccoughing, fainting, and convulsions are the signs of approaching death.

EXPLANATORY.

Cholera morbus can often be cured instantly. Of the hundreds of cases treated by us, we have yet to find the first that did not respond, and we stand ready to wager our reputation that there never was and never will be a case of this disease that cannot be cured by this method of treatment if properly applied. This may justly be considered the grandest discovery of this or any other age. And we beg the medical fraternity throughout our land, who usually look with eyes of skepticism on anything out of the ordinary, to try this one great principle, which is destined to save thousands of lives each year. We trust that each and every one who may chance to read these pages will remember our treatment for cholera morbus. Not because it is more reliable than any other great principle laid down in this work, but it is so simple and of such vast importance in times of need, so infallible, and gives such immediate relief.

That the reader may gain a correct understanding of this great principle, we will return to the anatomy of the machinery of human life. Once more comparing the cerebro-spinal cord, the brain, and the nerves to a telegraphic system, we will trace the cause of cholera morbus and the excited condition of the digestive organs directly to the brain. It will be wise, in this connection, as some of our readers may not be very familiar with anatomy and physiology, to sketch briefly the process of digestion.

Food, when taken into the mouth, undergoes two processes, which are inseparable and simultaneous in action, being mastication and insalivation. In the short time occupied by the passage of the food through the esophagus no special change takes place. In the stomach the food is mixed with the juices of that organ, and is converted into chyme. The chyme begins to leave the stomach through the pyloric orifice soon after gastric digestion has begun, some passing into the duodenum in about half an hour. The materials which resist gastric secretion or are affected very slowly by it are retained many hours in the stomach, and the pylorus may refuse exit to such materials for an indefinite length of time, so that, after causing much uneasiness, they are finally removed by vomiting. Many solid masses escape through the pylorus, however, when it opens to let out the chyme.

The small intestine is a convoluted tube, varying in length from twenty to thirty feet, which gradually diminishes in size from its commencement to its termination. The power which forces the food and chyme through this long convoluted tube is called the **peristaltic action**, and is controlled by the "main battery," the brain. A wave of contraction passes from the pylorus along the circular fibers so as to look like a broad ring of constriction, progressing slowly downward. The longitudinal fibers at the same time contract so as to shorten the piece of intestine immediately below the ring of constriction, and also causes a certain amount of rolling movement of those loops of intestine which are free enough to move. In cholera morbus this peristaltic action becomes increased to an alarming extent. Food has been taken into the stomach, to remove which a great amount of nerve-power is required; and when it is finally expelled, and the current still on, we have a machine running away with itself. We are as yet unable to deter-

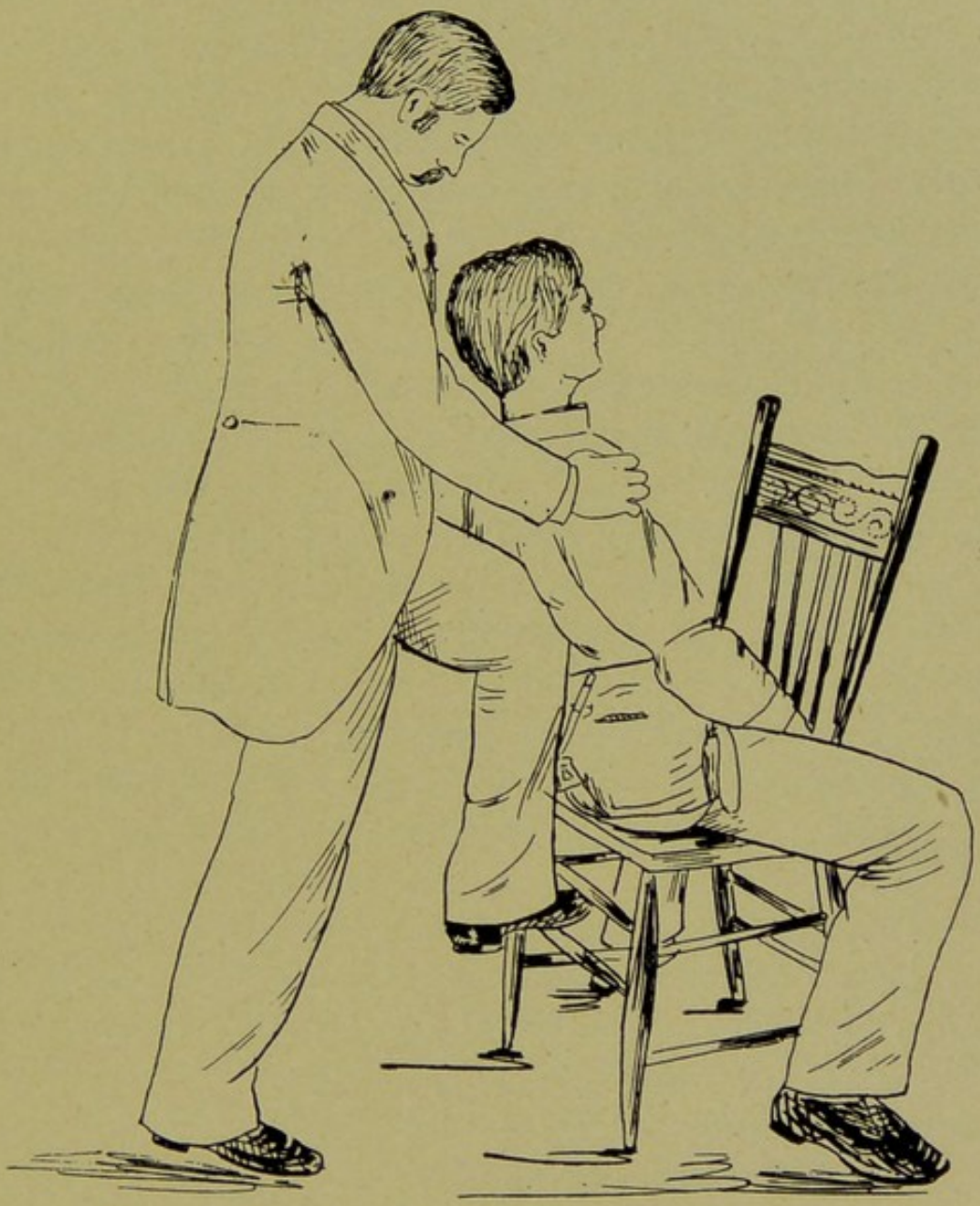
mine the precise cause of Nature failing to apply her brakes, and check the current at the proper moment, but we have succeeded in locating the point on which a slight pressure of the hand will instantly slow up the machine.

The *great splanchnic* and *right pneumogastric* nerves form the *solar plexus*, or "great abdominal brain," and control the peristaltic action of the bowels. Now it is obvious that a pressure on these nerves long enough to break the current will check the peristaltic action of the intestines. The pneumogastric has a more extensive distribution than any of the other cranial nerves. Passing through the neck and thorax to the upper part of the abdomen, it is composed of both motor and sensory fibers. It supplies the organs of voice and respiration with motor and sensory fibers, and the pharynx, esophagus, stomach, and heart with motor-fibers. It emerges from the cranium through the jugular foramen, passes vertically down the neck within the sheath of the carotid vessels, lying between the internal carotid artery and the external jugular vein as far as the thyroid cartilage. Thus it will be seen that it can be reached by a strong, steady pressure on the right side of the windpipe, as it is commonly called, in the lower part of the neck. The right splanchnic nerve will respond to a pressure close to the spine between the sixth and seventh ribs.

While this treatment will cure cholera morbus, and was arrived at by studying man as a machine from a scientific standpoint, a much simpler method, producing the same results, will be given as our infallible mode of treating these diseases.

TREATMENT.

1. Place the patient on a stool, the operator standing behind. The operator now places his knee on the spine, just below the last rib, grasping the patient's shoulders, and



CUT 20.—Diarrhea Treatment.

draws him gently but firmly backward as far as possible (cut 20). Let all motions be slow, allowing the patient time to relax the muscles. Ninety per cent of all cases will be cured instantly by this one move. In aggravated cases, where the patient is bedfast, while lying on the back, place one hand under each side, the fingers pressing on each side of the spine just below the last ribs, and two or three times slowly raise the patient until only the shoulders and pelvis touch the bed (cut 19).

2. Press lightly with the palm of the hand on the umbilicus (and stronger as the patient becomes accustomed to the pressure) for one minute.

3. Hold the vaso-motor center for two or three minutes, and your patient is out of danger (see cut 13). It is very seldom that anything further than one backward movement is necessary.

Taken suddenly with cholera morbus between St. Louis and Kansas City, the writer cured himself instantly by bending far backward over the back of the car seat. Any of our readers can do likewise.

While on this subject, we will mention the case of a lady at Miami, I. T. We received an urgent call from her husband one Tuesday morning, but, being overwhelmed with office work, it seemed impossible for us to take the time to drive twenty miles into the Indian Nation; so it was arranged that if the drugs of the local doctors failed, and she was still alive, we should drive down Friday night. We reached her bedside at midnight (Friday night), and found her just alive. We treated her once, and in a week she was walking on the streets of Miami in perfect health.

CRAMP IN THE BOWELS.

Cramp in the bowels is caused by the too rapid action of the intestines, one fold being thrown over another; this

can usually be instantly cured by bending the patient far backward as in flux. In rare cases it will be found necessary to place the patient on the back and gently but firmly knead the bowels, working deep, thus freeing the parts and giving immediate relief.

Vibration two or three minutes over the bowels is very beneficial in all cases of diarrhea or cramp in the bowels. See Vibration (pages 36 and 67).

CHOLERA INFANTUM.

(Inflammation of the stomach and bowels of children.)

SYMPTOMS.

Usually occurs in the summer months. Rapid wasting; fever; vomiting; watery and fetid diarrhea; convulsions; coma; depressed fontanelles.

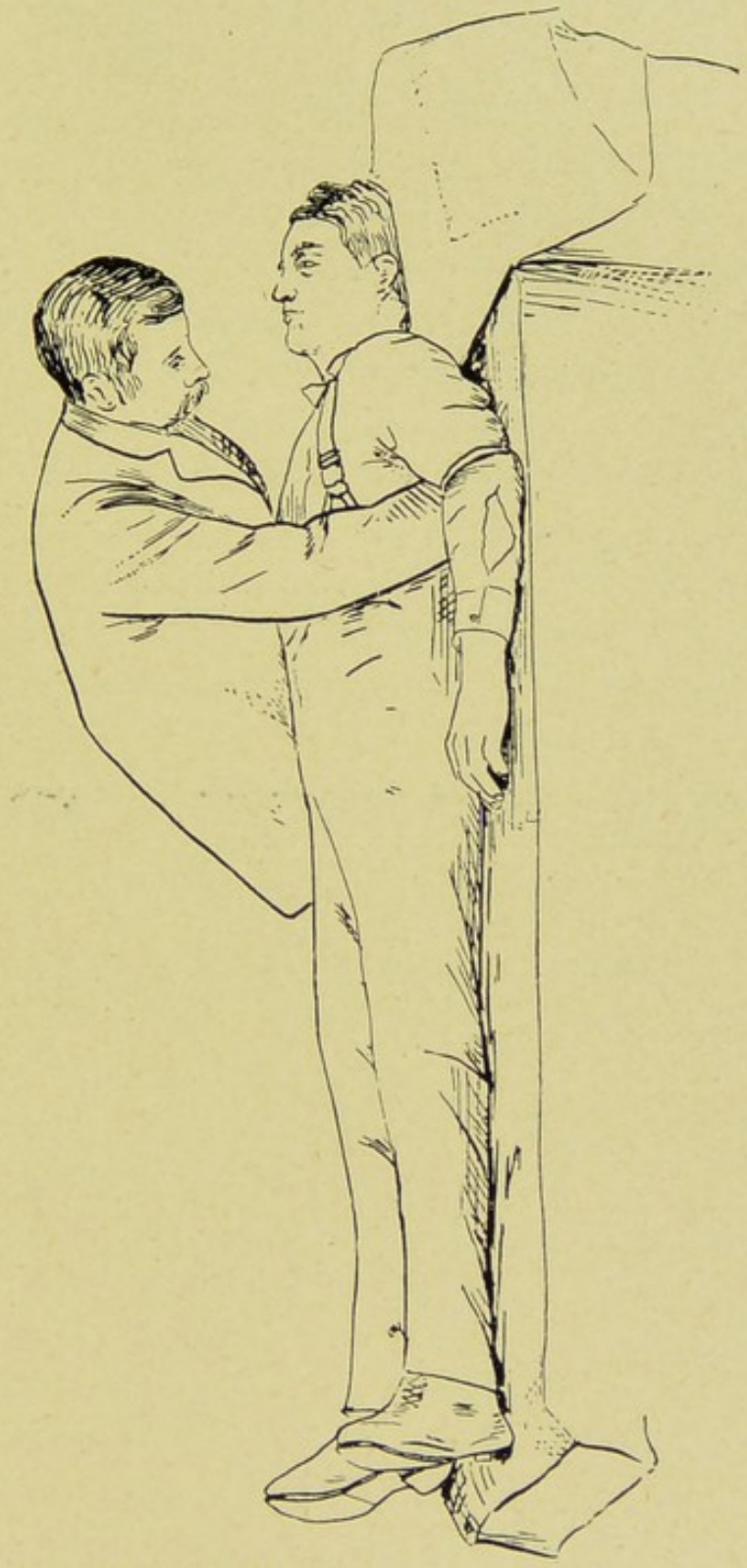
TREATMENT.

1. Place the child upon its back; the hands of the operator on each side of the spine below the last dorsal, the ends of the fingers pressing hard on each side of the spine; raise and hold the patient a moment in this position, the head and limbs only touching the bed.

2. Place the hand lightly over the bowels, and vibrate (pages 36 and 67) gently one or two minutes.

3. Place the hands upon the sides of the neck, the fingers almost meeting over the spinous processes of the upper cervicals; press gently two or three minutes with the fingers upon the vaso-motor (cut 13).

This treatment, if properly applied, is infallible. If the child is restless, and refuses to submit to the operation, it can be treated upon the mother's lap by bending it backward while pressing upon the lumbar vertebræ; the object being



Cut 21.—Holding the Splanchnic Nerves.

to get the body in such a position as to throw a direct pressure upon the solar plexus.

We might mention in this connection a very prominent physician at Galena, Kas, who was converted to Osteopathy by the results achieved in the treatment of a case of cholera infantum. While the doctor was fairly liberal in his views, and willing to investigate this new science, it seemed unreasonable to him to believe that this disease could be cured without the use of medicine. Having a case of cholera infantum, in its last stages, after having applied the drug treatment in vain, he gave the little one, one evening, an osteopathic treatment, and was surprised upon his visit the next morning to find it improving quite rapidly. A continuation of the treatment in a few days effected a cure.

CRAMP IN THE STOMACH AND VOMITING.

TREATMENT.

1. Bend the patient backward as in diarrhea.
2. Press steadily on the pit of the stomach with the palm of the hand for a moment.
3. Place the knee between the shoulders, raising the arms high above the head (see cut 5).
4. Permit the patient to lie on the back, and, reaching over as in cut 21, with each of the fingers close to the spine, between and a little below the scapulæ, press strongly a moment, after which hold the vaso-motor center (see cut 13).

This treatment will cure the most aggravated cases, usually in a few moments. It will be observed that we are working here on the splanchnic nerves, which are in direct communication with the stomach.

CHRONIC DIARRHEA.

(Frequent evacuation of the bowels, usually resulting from amyloid diseases, but may be due to chronic inflammation of the bowels, causing increased peristalsis.)

SYMPTOMS.

Increased movement of the bowels; stools light in color, containing mucus; nervousness; intestinal indigestion. More common in females.

TREATMENT.

1. Place the patient on the side; beginning at the upper dorsal, move the muscles upward and outward, very deeply, the entire length of the dorsal region. Treat the opposite side in a similar manner.

2. Place the patient on a stool; the operator placing the knee against the back of the patient, just below the last dorsal, draw the patient backward, slowly but strongly, as far as the patient can stand without too much inconvenience; hold in this position a moment and repeat.

3. Place the hand lightly over the bowels, with the patient lying on the back; vibrate (pages 36 and 67) gently two minutes.

4. Place the hand under the chin, drawing the head backward, rotating it gently from side to side, with the disengaged hand manipulating the muscles immediately over the pneumogastric.

This treatment should be applied each day; will require about fifteen minutes; and, if correctly given, will cure any case of chronic diarrhea.

FLUX, OR ACUTE DYSENTERY.

(Inflammation of the large intestine, with frequent evacuation of the bowels.)

SYMPTOMS.

Prostration; fever; evacuations mucous and bloody; vertigo; weakness; vomiting; nausea; and headache. Usually occurs in summer or fall.

TREATMENT.

1. Place the patient on the side; beginning at the upper cervicals, move the muscles upward and outward, gently and carefully, along the entire length of the spinal column. Treat the opposite side in a similar manner.

2. Stand beside the bed, patient lying on his back; place one hand on each side of the spine, below the last dorsal, the fingers pressing close to the spine upon each side; raise the patient, his weight resting upon the ends of the fingers, until his body is several inches off the bed; hold in this position for a moment; and repeat, this time placing the fingers nearer the sacrum.

3. Place the hand lightly over the bowels, and vibrate (pages 36 and 67) gently two or three minutes.

4. Place the hands upon each side of the neck, the fingers almost meeting over the spinous processes of the upper cervicals (see cut 13); press gently two or three minutes, to reduce the fever. See Vaso-motor (page 253).

Treatment will occupy ten or fifteen minutes, and should be given every four hours.

CHRONIC DYSENTERY.

(May follow an acute attack.)

SYMPTOMS.

Similar to the acute form, but without fever; com-

plexion sallow; wasting; skin dry; urine albuminous; and anemia.

TREATMENT.

See Flux or Acute Dysentery (page 183). Treatment should be given each day, omitting No. 4.

APPENDICITIS.

(Inflammation of the vermiform appendix.)

SYMPTOMS.

Fever; anorexia; severe pain in the right iliac fossa, increased by motion; indication of a sausage-shaped tumor; vomiting, usually attended with nausea, but may not occur if there is diarrhea.

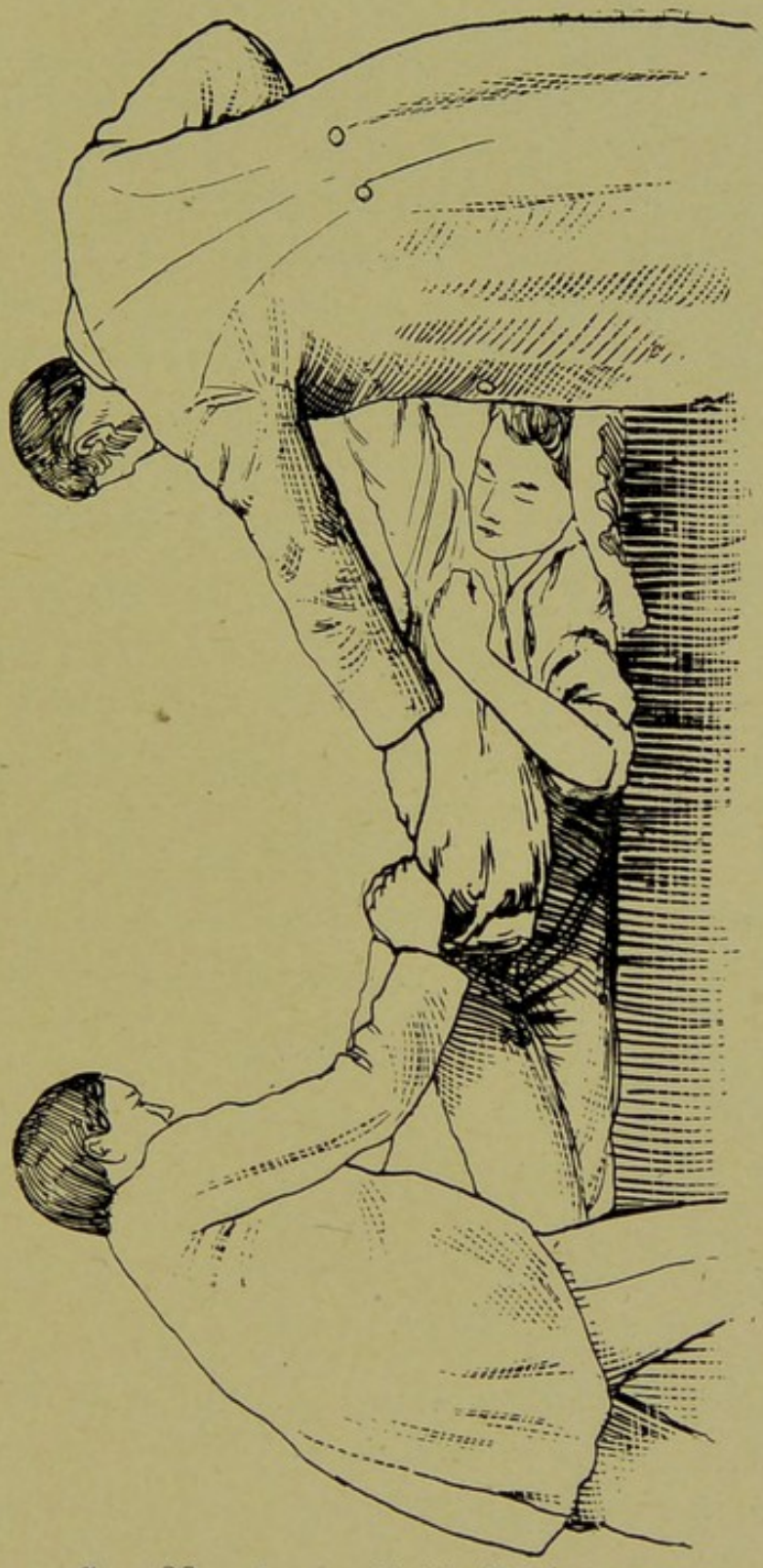
TREATMENT.

1. Place the patient on the back; beginning at the ileo-cecal valve, manipulate gently, but as deep as possible, the ascending, transverse, and descending colon, endeavoring to move any hardened lump of feces toward the rectum.

2. Place the patient on the left side and manipulate very gently at first, gradually working deeper and stronger over the cecum and vermiform appendix, manipulating these parts as thoroughly as possible. If this treatment is given in a very gentle, careful manner, it is surprising how deep and thorough these parts can be manipulated, without giving pain, and the immediate relief experienced by the patient.

3. Place the hand lightly over the cecum, and vibrate (pages 36 and 67) gently one or two minutes.

4. Grasping the right hand of patient, an assistant holding the hip, draw the arm strongly above the head, giving thorough extension (cut 22).



CUT 22.—Appendicitis Treatment.

5. Place the patient on the side; beginning at the upper cervicals, move the muscles upward and outward gently the entire length of the spinal column, giving particular attention to that portion which seems sensitive to the touch; treat the opposite side in a similar manner.

6. Place the hands on each side of the neck, fingers almost meeting over the spinous processes of the upper cervicals; press gently with the fingers three or four minutes upon the vaso-motor, to check the fever.

This treatment should be given each day, and occupy about fifteen minutes. First treatment will usually give immediate relief.

TYPHLITIS.

(Inflammation of the cecum.)

SYMPTOMS.

Pain in the right iliac fossa; nausea; constipation; fever; sausage-shaped tumor.

TREATMENT.

See Appendicitis (page 184).

PERITYPHLITIS.

(Inflammation of the tissues surrounding the cecum.)

SYMPTOMS.

It usually occurs in the course of appendicitis or typhlitis. Symptoms, except the tumor is not sausage-shaped, similar to the latter. Patient usually lies with thighs partly flexed upon the right side.

TREATMENT.

See Appendicitis (page 184).

ENTEROPTOSIS.

(Falling down of a number of the abdominal organs on account of relaxation of the supporting ligaments.)

SYMPTOMS.

Heaviness and weight in the abdomen, with distress; and displacement of the organs.

TREATMENT.

This disease can be greatly benefited and is sometimes cured by a long continuation of our General Treatment (page 306), the object being to free and stimulate the circulation to the weakened muscles and ligaments supporting the displaced organs.

INTUSSUSCEPTION.

(Slipping of one part of the intestine into another.)

SYMPTOMS.

Paroxysms; sudden pain; sausage-shaped tumor in the abdomen; dysentery; small intestine entering the large one at the ileo-cecal orifice is the most common.

TREATMENT.

Beginning a few inches above the sausage-shaped tumor, manipulate the bowels, gently at first, gradually working stronger and deeper, endeavoring, if possible, to move the intestine backward and out of the larger one. This treatment should be very careful and thorough, and continued at intervals until the desired result is accomplished. It is always advisable to place the hand lightly over the tumor and vibrate (pages 36 and 67) two or three minutes.

INTESTINAL OBSTRUCTION.

(May be calculus, gall-stone, or fecal impaction.)

SYMPTOMS.

Pulse feeble and rapid; surface cold and clammy; abdominal pain; vomiting; rumbling, and distended abdomen.

TREATMENT.

1. Very thorough, careful manipulation of the large and small intestines; working gently at first, gradually deeper and stronger, as the patient becomes accustomed to the manipulation. Patient should lie upon the back, with the limbs slightly flexed, thus relieving the tension upon the abdominal muscles. After manipulating the bowels a few moments, work deeper, and endeavor to locate, if possible, the obstruction, which must be kneaded and manipulated in any manner which will best tend to move it onward toward the rectum.

2. Thorough and careful Treatment to Equalize the Circulation (page 114).

Treatment should be given every day, and will occupy about twenty minutes.

INTESTINAL CARCINOMA.

(Cancer of the bowels.)

SYMPTOMS.

There may be no symptoms, except general failure of the health, until obstruction of the bowels takes place.

No cure in Osteopathy.

INTESTINAL TUBERCULOSIS.

(Consumption of the bowels.)

SYMPTOMS.

Anemia; diarrhea; irregular fever; rapid emaciation.

No cure in Osteopathy.

INTESTINAL AMYLOID DEGENERATION.

(Starch-like wasting of the bowels.)

SYMPTOMS.

Diarrhea, associated with amyloid diseases of other organs; changes in the urine; and enlargement of the liver and spleen.

No cure in Osteopathy.

INTESTINAL PARASITES.

(The most common are **Cestodes**, or Tape-worms, and **Nematodes**, or Round-worms. The former are *Tenia Solium*, *Tenia Mediocanellata*, and *Bothriocephalus Latus*. The most common of the latter are *Lumbricoides*, *Oxyuris Vermicularis*, and *Trichina Spiralis*.)

SYMPTOMS.

Capricious appetite; uneasiness in the abdomen; colicky pains; nausea; insomnia; possibly vomiting; itching of the nose and anus; and epileptic convulsions.

No cure in Osteopathy.

ACUTE PERITONITIS.

(Inflammation of the peritoneum.)

SYMPTOMS.

Sudden and chilly feelings, or rigor; intense pain in the abdomen, aggravated by movements or pressure; patient

lies on the back, with legs drawn up; tympanites; nausea; vomiting; elevation of temperature; drawn face and anxious expression.

TREATMENT.

1. Place the patient on the back; beginning at the cecum, manipulate very gently, following the colon its entire length to the rectum. This treatment should occupy several minutes; gradually working deeper and stronger. The small intestine must also be kneaded very carefully. Great caution must be exercised to begin very gently, gradually working deeper and stronger, as in this manner the patient can be greatly relieved and the treatment given with very little pain.

2. Place the hand lightly over the intestine; vibrate (pages 36 and 67) gently for two minutes, thus starting the circulation, and reducing the inflammation in the peritoneum.

3. Grasp the patient's wrists, and draw the arms slowly, gently, but with some strength, above the head, as the patient inhales.

4. Place the patient upon the side; moving the muscles upward and outward the entire length of the spinal column, gently but deep; treat the opposite side in a similar manner.

5. Place the hands on each side of the neck, the finger-tips almost meeting over the spinous processes of the upper cervicals (cut 13); press gently with the fingers three or four minutes, to reduce the fever.

This treatment, if carefully given, will occupy about thirty minutes, and give immediate relief. Should be given once each day, until recovery.

CHRONIC PERITONITIS.

(May follow an acute attack.)

SYMPTOMS.

The omentum is hard and rolled up close to its attachment to the stomach; coughing or speaking often increases pain; tongue often cracked and red; greenish vomit; and constipation.

TREATMENT.

See Acute Peritonitis (page 191).

ASCITES.

(Dropsy of the abdomen. Fluid in the peritoneal cavity.)

SYMPTOMS.

Skin tense; enlargement of the abdomen; the navel may project; fluctuation or waving of fluid on tapping.

TREATMENT.

1. Thorough manipulation of the bowels and abdomen. See Constipation Treatment (page 150).

2. Place the patient on the side; beginning at the tenth dorsal, move the muscles upward and outward very thoroughly and deeply to the lower end of the sacrum. This treatment stimulates the kidneys to more rapid action.

This treatment should be very thorough and careful, and occupy about fifteen minutes, every other day.

PERITONEAL CARCINOMA.

(Cancer of the peritoneum.)

SYMPTOMS.

This disease usually occurs in old people, and follows cancer in other organs; pain, with appearance of a tumor.

More common in females. Progressive emaciation; ascites usually develop, with bloody exudation.

No cure in Osteopathy.

PERITONEAL TUBERCULOSIS.

(Tuberculosis of the peritoneum.)

SYMPTOMS.

May continue without any symptoms; may simulate suppurative peritonitis, except that its course is more prolonged and less pronounced; fluctuation of temperature.

No cure in Osteopathy.

Diseases of the Liver.

THE LIVER.

The liver is a gland, intended for the secretion of sugar and bile, remarkable for its size, equaling that of all the other glands, and for its connection with the system of the portal vein, which ramifies in its substance. This organ fills almost all of the right hypochondrium, a great part of the epigastrium, and advances into the left hypochondrium as far as the mammary line, in the neighborhood of the spleen. It is situated below the diaphragm, which separates it from the lungs and heart; above the stomach, duodenum, transverse colon, and small intestine, which forms a sort of pillow; behind are the false ribs, which protect it.

Capsule.—The liver is covered by a thin, fibrous, firmly adherent capsule, which has on its free surface a layer of endothelium, derived from the peritoneum. The capsule sends fine septa into the organ, between the lobules, but it is also continued into the interior of the transverse fissure, where it surrounds the portal vein, hepatic artery, and bile-duct, and accompanies these structures as the *Capsule of Glisson*, or interlobular connective tissue. The spaces in which these structures lie are known as the portal canals.

Lobules.—The liver consists of innumerable small lobules, one to two millimeters in diameter. These lobules are visible to the naked eye, and all have the same structure.

Cells.—The **liver** or **hepatic cells** are irregular polygonal cells of about 1-1000 of an inch in diameter. They form anastomosing columns, which radiate from the center to the periphery of each lobule.

The appearance of the cells varies with the period of digestion. During *hunger* the cells are finely granular and very cloudy, and contain little glycogen, but many pigment-granules, and the nucleus is more frequently absent. During *activity* after a full meal the cells are larger and more distinct.

Bile-Ducts.—The two **hepatic ducts,** which carry the bile out of the liver, emerge from the right and left hepatic substance, at the transverse fissure; they unite, and are joined by the **cystic duct,** which is a continuation of the tapering extremity of the gall-bladder. By the union of the hepatic duct with the cystic duct, the **common bile-duct** is formed. It pierces the coat of the duodenum very obliquely, and opens along with the pancreatic duct into the duodenum.

The finest bile-capillaries, channels, or canaliculi arise at the center of the lobule, and indeed throughout the whole lobule they form a regular anastomosing network of very fine tubes or channels. The bile-capillary network is much closer than the capillary network of the blood. Extensive minute intercellular passages are said to pass from the bile-capillaries into the interior of the liver-cells, where they communicate with small cavities, or vacuoles. As the blood-capillaries run along the edge of the liver-cells, and the bile-capillaries between the opposed surfaces of adjacent cells, the two systems of canals within the lobule are kept separate. Toward the peripheral part of the lobule the bile-capillaries are larger, while adjoining channels anastomose, and leave the lobule, where they become interlobular ducts, which join with other similar ducts to form larger bile-ducts. These accompany the hepatic artery and portal vein, and leave the liver at the transverse fissure.

Bile.—Although the bile is secreted continuously, and passes along the hepatic duct in most animals, it is only

poured into the intestine at certain times. In the intervals it is carried along the cystic duct and stored up in the gall-bladder. At certain times it is poured out by the common bile-duct into the duodenum. Bile is a yellowish-brown or dark-green transparent fluid, with a sweetish, strongly bitter taste, feeble musk-like odor, and neutral reaction.

Gall-Bladder.—The gall-bladder is a pear-shaped sac, capable of containing 20-25 c.c. of bile. In some animals the gall-bladder is wanting, as in the donkey, elephant, and mouse.

Blood-Vessels.—The liver is supplied with blood by the hepatic artery and the portal vein.

The **hepatic artery** supplies a small quantity of arterial blood to the liver. The blood, after circulating through the liver, is returned by the hepatic veins to the inferior vena cava.

The **branches** of the hepatic artery accompany the branches of the portal vein and bile-ducts in the portal canals between the lobules, and in their course give off capillaries to supply the walls of the portal veins and larger bile-ducts. The branches of the hepatic artery anastomose frequently where they lie between the lobules. On reaching the periphery of the lobules, a number of capillaries are given off, which penetrate the lobule, and terminate in the capillaries of the portal vein. These capillaries, however, which supply the walls of the portal vein and large bile-ducts, terminate in veins which end in the portal vein.

The **portal vein** is formed by the confluence of the gastric, splenic, inferior and superior mesenteric veins, whereby the short, wide, *vena portae* is formed. It enters the liver at the transverse fissure, accompanied by the bile-duct and hepatic artery, and is distributed between the lobules. The

portal vein returns the blood from the stomach, pancreas, intestines, and spleen; hence it carries some of the products of digestion directly to the liver, where some of them are materially changed by the hepatic cells, as they pass slowly through the hepatic blood-vessels.

The portal vein, after its entrance into the liver, at the portal fissure, gives off numerous branches, lying between the lobules, and ultimately forming small trunks which reach the periphery of the lobules, where they form a rich plexus. The branches of the portal vein, lying between the lobules, are called the interlobular veins, which are always provided with thick muscular walls. From these veins numerous capillaries are given off to the entire periphery of the lobule. The capillaries converge towards the center of the lobule. As they proceed inward they form elongated meshes, and between the capillaries lie rows or columns of liver-cells. The capillaries are relatively wide, and are so arranged as to lie between the edges of the columns of cells, and never between the surfaces of two adjacent cells. The capillaries converge toward the center of each lobule, where they join to form one large vein, the hepatic, intralobular, or central vein, which traverses each lobule, reaches its surface at one point, passes out and joins similar veins from other lobules to form the sublobular veins. Branches of the hepatic veins have very thin walls.

Nerves.—The nerves consist partly of medullated, but chiefly of non-medullated fibers. From branches of the sympathetic, the terminal branhes of the right vagus, and some branches of the left vagus, to the hepatic plexus, the hepatic plexus being that portion of the solar plexus which embraces the portal vein, bile-duct, and hepatic artery, as they pass into the liver at the portal fissure.

Functions.—To understand the functions of the liver we must remember its unique relation to the vascular and digestive systems, whereby many of the products of gastric and intestinal digestion have to traverse it before they reach the blood, and some of them as they traverse the liver are altered. The liver has several distinct functions, some obvious, others not. The liver secretes bile, which is formed by the hepatic cells, and leaves by the bile-ducts, to pass into the duodenum. Glycogen is also formed in the liver, and does not pass into the duct, but, in some altered form, passes into the blood-stream, and leaves the liver by the hepatic vein. One of its functions, also, is to destroy the hemoglobin of the blood; hence the study of the liver materially influences our conception of a secreting organ. In this instance we have the products of its secretory activity leaving it by two different channels, the ducts and the blood-stream. The liver, therefore, is a great storehouse of carbo-hydrates, serving them out to the economy as they are required, preventing the blood from being overcharged with sugar, and, on the other hand, it prevents a deficiency of this important body in the blood. All this points to the liver as being an organ intimately related to the general metabolism of the body. In a certain period of development it is concerned in the formation of blood-corpuscles. It has some relation to the breaking up of blood-corpuscles and the formation of urea and other metabolic products. Some importance is attributed to the liver in connection with the arrest of certain substances absorbed from the alimentary canal, whereby they are either destroyed, stored up in the liver, or prevented from entering the general circulation in too large an amount. It converts the poisonous, odorous products of putrefaction, derived from proteids in the intestine, into harmless compounds, by conjugation with sulphates.

EXPLANATORY.

We have entered rather minutely into the anatomy and physiology of the liver, desiring to call the attention of the reader more particularly to its immense double blood-supply (which equals, after meals, one-fourth of all the blood in the body), and to the fact that it is a great chemical laboratory, placed on the highway by which the great majority of material absorbed from the intestines reaches the blood. It is, therefore, obviously in a position to act as the guardian of the blood's purity, and health; and the necessity of a free and unobstructed circulation to, through, and from this organ cannot be overestimated.

ACUTE LITHEMIA, BILIOUSNESS, OR TORPID LIVER.

(Excess of uric acid or other metabolic compounds in the blood).

SYMPTOMS.

Furred tongue; nausea; bitter taste; anorexia; slight fever; constipation; headache; stupor; perspiration, alternating with flashes of heat.

TREATMENT.

1. Place the patient on the side; beginning at the upper cervicals, move the muscles upward and outward, gently but deeply, the entire length of the spinal column, being very particular and thorough in all regions which are in the least sensitive to the touch; endeavoring in these regions to discover muscles in a contracted, cord-like condition, which are obstructing the circulation, and thereby affecting nerve-centers which control the alimentary canal. Such muscles must be kneaded and manipulated very thoroughly. Treat opposite side in a similar manner.

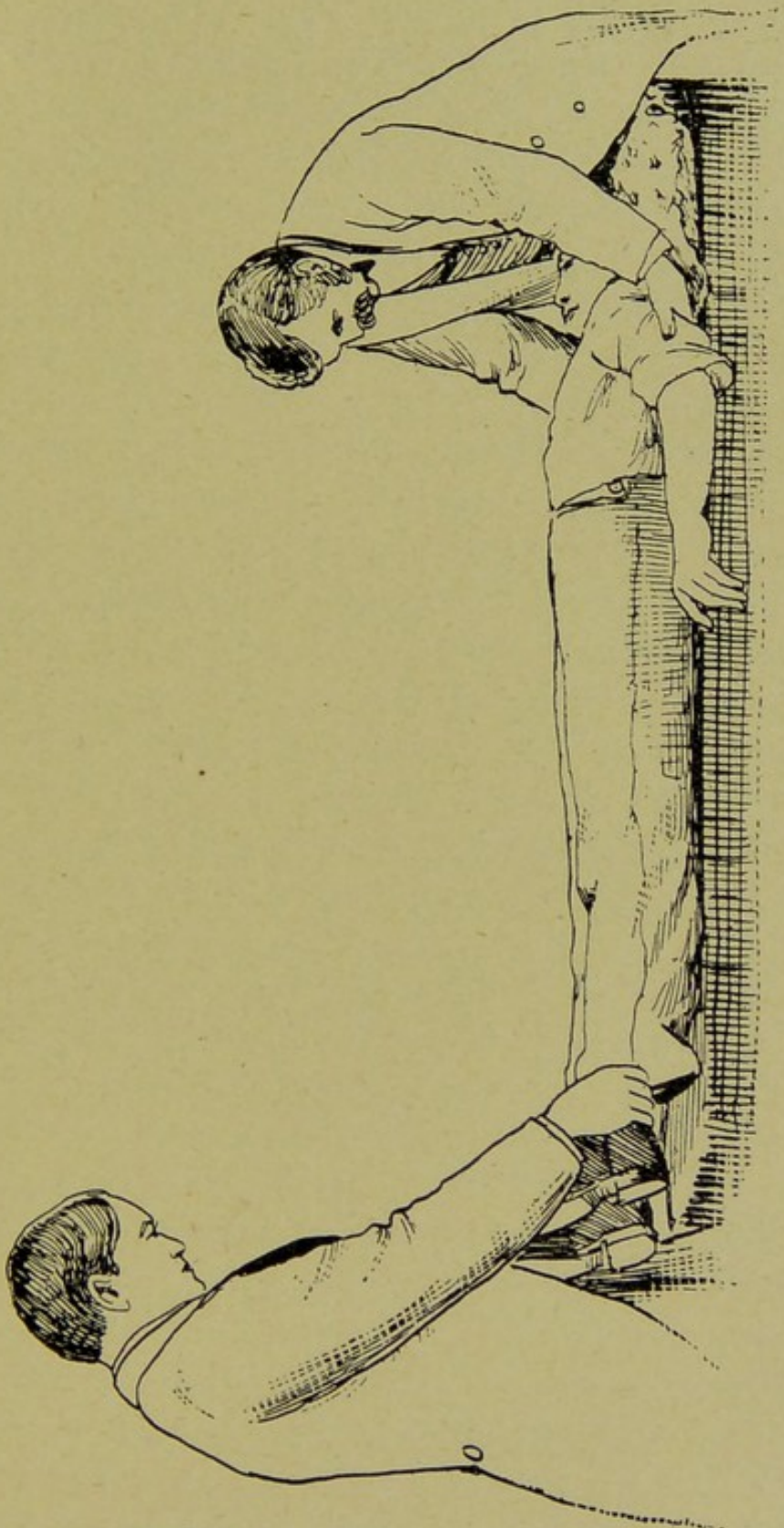
2. Place the patient upon the back; the operator grasping the shoulders, an assistant now grasps the patient's ankles, and a very thorough extension of the spine is given; pull gently at first, gradually stronger, the patient relaxing all muscles, for two minutes (cut 23). Care must be exercised, in giving this extension, to make it no stronger, but just as strong as the patient can conveniently stand. This thorough extension of the spine relieves the pressure upon the intervertebral fibro-cartilage, thereby relieving, in a measure, any undue pressure upon the spinal nerves, and also freeing the circulation to the cerebro-spinal cord, any obstruction to which means disease in some of its varied forms.

3. Place one hand under the chin, the other under the occipital bone (cut 8), and give careful extension of the neck, pulling gently until the body moves.

4. Place one hand under the chin, and draw the head backward, rotating it from side to side; with the disengaged hand manipulate the muscles immediately over the pneumogastric nerve. It is also well to manipulate all the muscles of the sides and front of the neck in a very thorough and careful manner, as this treatment not only frees and stimulates the pneumogastric, but also frees the blood-supply to the head.

5. In all cases where constipation is present, beginning at the cecum, manipulate very deeply and gently, following the colon its entire length, endeavoring to move any hardened lump of feces toward the rectum. Manipulate the small intestine carefully and thoroughly (cut 17).

It is also well, in constipation, to knead, as much as possible, the gall-bladder, endeavoring to empty its contents into the duodenum.



CUT 23.—Extension of the Spine.

6. Flex the limb against the abdomen strongly; while in this position, move the knee three or four times from side to side, giving quite strong abduction; extend the leg with a light jerk. This treatment stretches the adductor muscles of the thigh, thereby freeing the circulation to the leg, and assisting to equalize the same. Treat the opposite limb in a similar manner.

7. Place the hand upon the ribs over the liver; press gently at first, gradually increasing the strength, until the ribs are pressed strongly downward upon the liver; relax the pressure gradually. This operation should be repeated two or three times each treatment, as it assists very materially in stimulating the liver to correctly perform its allotted task.

8. Place the fingers of the right hand under the ribs, immediately over the liver (cut 25); with the left hand grasp patient's right wrist and draw the arm strongly above the head; at the same instant, with the right hand, raise the ribs as much as possible, off of the liver.

9. Place the hand lightly over the liver; vibrate (pages 36 and 67) gently two or three minutes.

10. Place the patient upon a stool; with the thumbs close to the spine, at about the second dorsal, have an assistant raise the arms high above the head, as the patient inhales, filling the lungs to their utmost capacity; press hard with the thumbs, as the arms are lowered with a backward motion, patient permitting the elbows to bend (cut 24). Repeat this operation, moving the thumbs downward each time to the next lower vertebra, until the eighth dorsal vertebra is reached.

This treatment will occupy about twenty minutes, and should be given each day. Immediate results can be ex-

pected, and a speedy cure will be effected, if this treatment is given in a correct and careful manner.

CHRONIC LITHEMIA.

(May follow acute attacks.)

SYMPTOMS.

Similar to the acute form with functional disturbance of nearly all the organs of the body.

TREATMENT.

See Acute Lithemia (page 199). Treatment to be given every other day. A change for the better will be noticed in one or two weeks, if the treatments are correctly given, and a cure may be looked for in from two to three months.

ICTERUS, OR JAUNDICE.

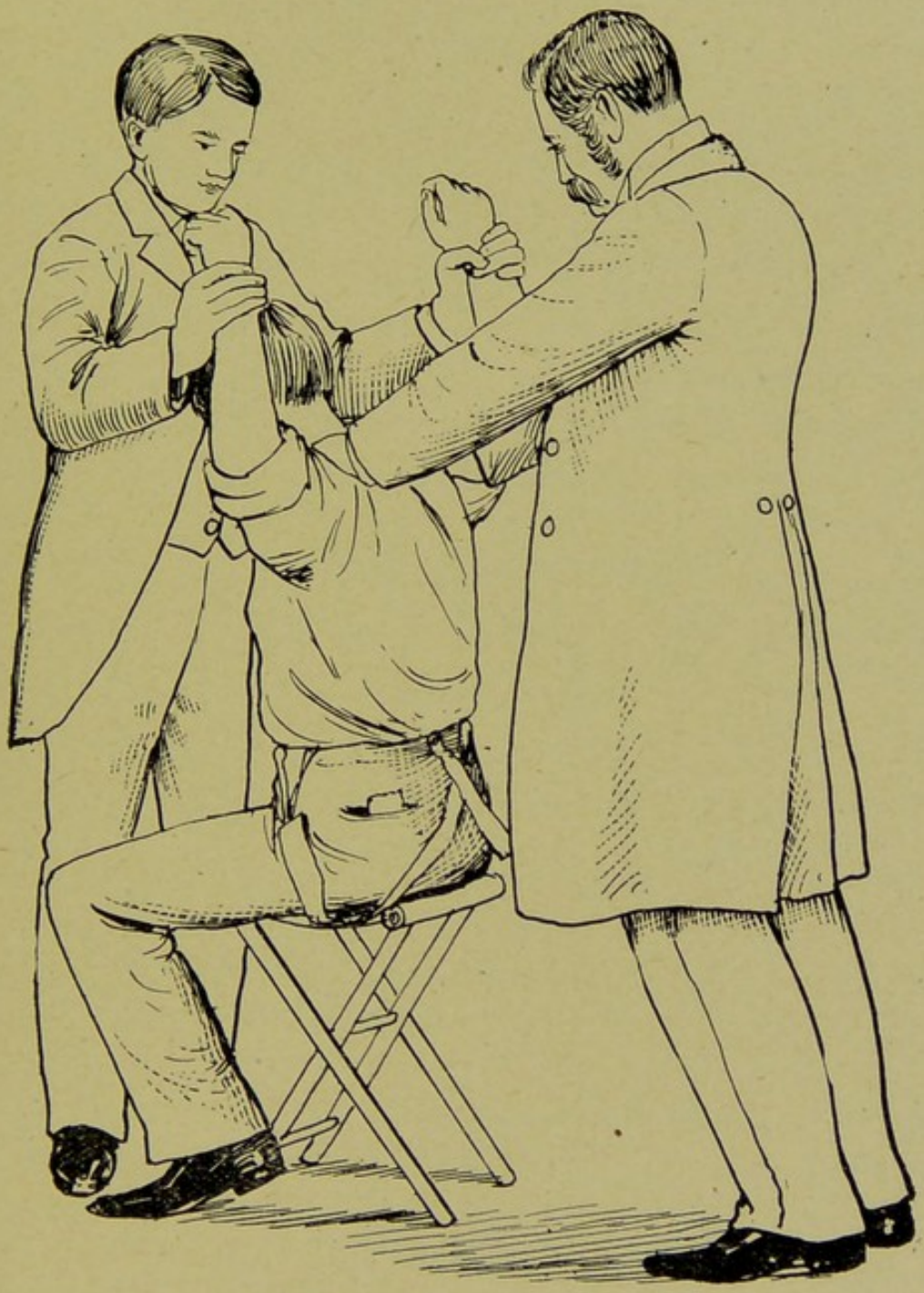
(May be **hematogenous**, (1) when the function of the liver cells have been suppressed, and (2) when the destruction of hemoglobin is in excess of the capacity of the liver to remove the product of destruction; **hepatogenous**, when there is obstruction of the ducts.

SYMPTOMS.

Skin and mucous membranes become yellow; irritation of the skin; discoloration of the secretions; bile absent in the feces; slow pulse; irritability and depression of spirits, drowsiness and stupidity of mind, advancing with the disease.

TREATMENT.

See Acute Lithemia (page 199), being very particular to manipulate and vibrate the liver in an exceedingly thorough manner.



Cut 24.—Acute Lithemia.

MALIGNANT JAUNDICE, OR ACUTE YELLOW ATROPHY.

(Acute inflammation of the liver, with necrosis of the cells, and bile-pigment in the urine.)

SYMPTOMS.

Nausea; vomiting; headache; aversion to light; tongue dry and coated; diminution of the area of hepatic percussion; dullness; temperature subnormal at times.

TREATMENT.

See Acute Lithemia (page 199). The entire treatment should be given in a very thorough, careful manner, every other day, being particularly thorough in vibration of the liver.

HEPATIC CONGESTION.

(Excess of blood in the liver, from obstructed circulation.)

SYMPTOMS.

Weight, and dull pain in the right hypochondrium; tongue coated; anorexia; headache; vertigo; digestion impaired; and there may be pain in the right shoulder.

TREATMENT.

1. See Acute Lithemia (page 199).
2. Place the hands on the sides of the neck, the fingers almost meeting over the spinous processes of the upper cervicals; tip the head slightly backward, pressing gently with the fingers three or our minutes upon the vaso-motor (page 253).

ACUTE HEPATITIS.

(Inflammation of the liver.)

SYMPTOMS.

Pain in the right hypochondrium; appetite impaired; nausea; vomiting and febrile symptoms.

TREATMENT.

1. Place the patient on the side; make a careful examination of the spine. A very sensitive spot will usually be discovered over the origin of the splanchnic nerves in the dorsal region, which should be treated in a very thorough and careful manner, moving the muscles upward and outward. It is always well in this disease to treat the entire length of the dorsal region, on both sides of the spinous processes, after which, placing the finger-tips directly over the origin of the splanchnics in the spine, give gentle vibration two or three minutes.

2. With the patient lying on the back, place the hand lightly over the liver; vibrate gently five minutes (pages 36 and 67).

3. Place the hands on each side of the neck, fingers almost meeting over the spinous processes of the upper cervicals; press gently with the fingers three or four minutes upon the vaso-motor (cut 13).

Treatment should be given each day, and occupy about fifteen minutes.

HEPATIC ABSCESS.

(Abscess of the liver. May follow acute hepatitis.)

SYMPTOMS.

Pain over the liver, and at the right shoulder; may be hiccough, and dyspnea; elevation of temperature; rigors and perspiration.

TREATMENT.

1. See Acute Hepatitis (page 207).

2. In case of difficult breathing, pressing upon the angle of the second rib, upon the right side, with the left hand draw the right arm with the right hand with some strength

slowly and strongly above the head as the patient inhales; lower the arm with a backward motion, pressing hard at the same instant upon the angles of the second rib; place the fingers upon the third rib; raise the arm as before; and repeat until the fifth rib is reached. Treat the opposite side in a similar manner.

In the treatment of this disease, a great deal will depend upon the good judgment of the operator, who should not only apply the above treatments, but should apply such parts of the treatment for Acute Lithemia (page 199) as the conditions necessitate.

HEPATIC CIRRHOSIS.

(Inflammation, and thickening of the tissues of the liver; usually with atrophy of the organ.)

SYMPTOMS.

Impairment of nutrition; superficial veins of the abdomen become enlarged; skin clay hue; hemorrhages of the nose and stomach.

No cure in Osteopathy.

HEPATIC FATTY INFILTRATION, OR FATTY LIVER.

(Accumulation of fat in the liver.)

SYMPTOMS.

Skin greasy; diarrhea; dyspnea; failure of hepatic function. More common with drunkards.

TREATMENT.

1. See Acute Lithemia (page 199), omitting No. 5.

2. Place the patient upon a stool; with the knee against the back, just below the last dorsal, bend the patient backward quite strongly; hold in this position a moment; and repeat (see cut 20).

3. Place the knee between the scapulæ, at about the third dorsal; draw the arms slowly but strongly above the head as the patient inhales, filling the lungs to their utmost capacity (cut 5); press hard with the knee as the arms are lowered with a backward motion.

While we cannot hope to effect a cure in this disease, the patient often derives much benefit from the above treatment, carefully given every other day.

HEPATIC AMYLOID DEGENERATION.

(Starch-like degeneration of the liver. Generally a sequel of syphilis.)

SYMPTOMS.

Enlargement without pain; face swollen and pallid; impaired digestion; ankles edematous.

No cure in Osteopathy.

HEPATIC CARCINOMA.

(Cancer of the liver.)

SYMPTOMS.

Loss of flesh; cachexia (malnutrition and general bad health, characterized by a waxy or sallow complexion); enlargement of the liver; fluids in the peritoneal cavity; deranged digestion; lancinating pains.

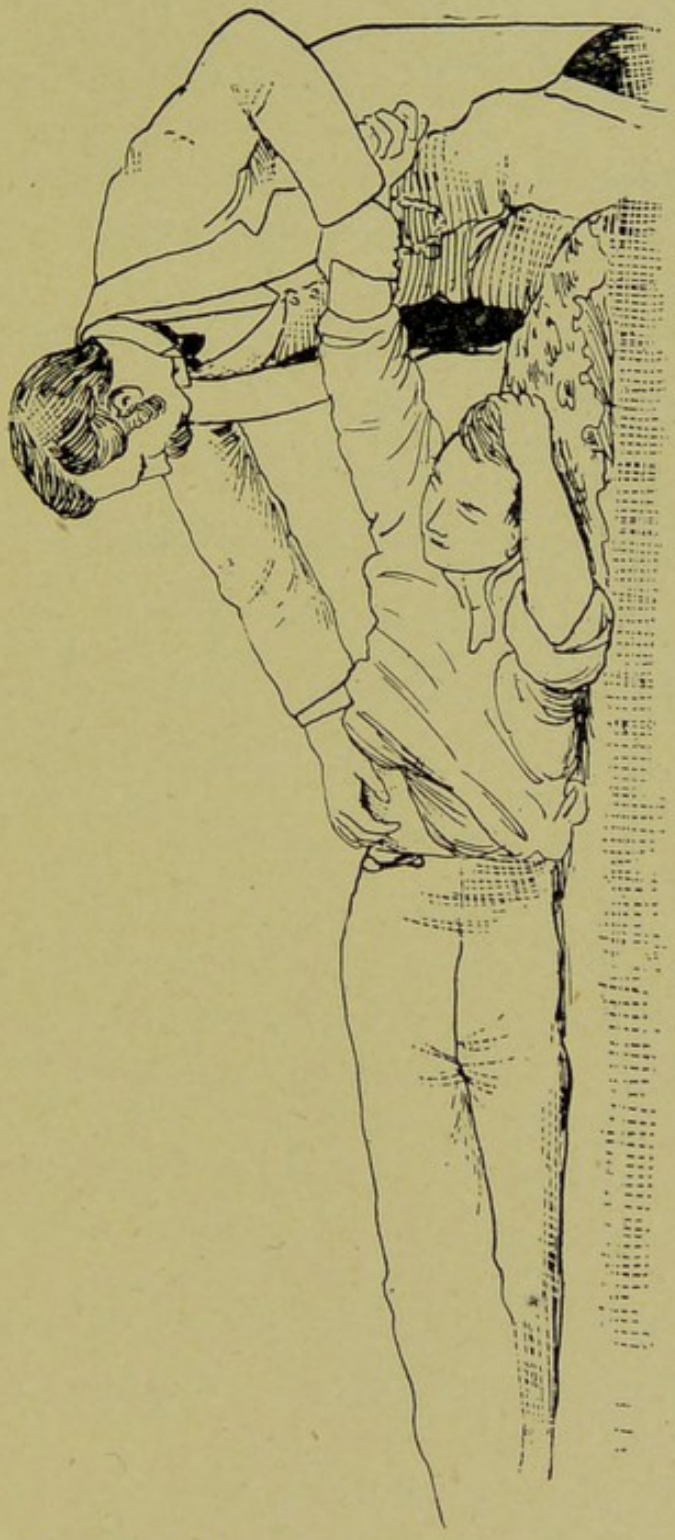
No cure in Osteopathy.

HEPATIC HYDATID CYST.

(Tumor of the liver, occurring in people who live with dogs.)

SYMPTOMS.

A local sensation of weight and dragging; no pain, but enlargement of the organ.



CUT 25.—Raising the False Ribs.

TREATMENT.

1. Place the hand lightly over the tumor; vibrate for five minutes very gently.

2. Press the ribs slowly but strongly down upon the liver; slowly relax and repeat the pressure; thus manipulate the liver for two or three minutes.

This treatment frees the circulation and often gives relief.

PERIHEPATITIS.

(Inflammation of Glisson's capsule.)

SYMPTOMS.

Pain and tenderness in the hepatic region; may be associated with hepatic cirrhosis.

TREATMENT.

1. Place the patient on the side; move the muscles upward and outward, gently but deep, the entire length of the dorsal region. Treat the opposite side in a similar manner.

2. Place the patient on the back; the hand resting lightly over the liver, vibrate (pages 36 and 67) gently for five minutes, thus starting the circulation, and thereby reducing the inflammation.

CHOLECYSTITIS, OR CHOLANGITIS.

(Inflammation of the gall-bladder.)

SYMPTOMS.

Pain in the right hypochondrium; liver enlarged; heart action retarded; tongue coated; itching of the skin; and impaired digestion.

TREATMENT.

See Acute Lithemia (page 199).

Treatment should be given in a very thorough, careful manner, particular attention being given the gall-bladder, which should be manipulated, and vibrated (pages 36 and 67) very carefully.

BILIARY CALCULI, OR GALL-STONES.

(Stones in the gall-bladder.)

SYMPTOMS.

Excruciating colicky pains in the right hypochondrium; nausea; shivering; vomiting; face pale; and body covered with cold perspiration.

TREATMENT.

Very thorough and careful manipulation of the gall-bladder will, if persisted in, cause the stones to move forward into the duodenum. The treatment should be continued at short intervals, until the desired results are obtained.

Operator must exercise great caution in not continuing any one treatment a sufficient length of time to unduly exhaust or fatigue the patient, in case the stones do not readily move forward.

CATARRHAL JAUNDICE.

(Inflammation and obstruction of the gall-duct.)

SYMPTOMS.

They are similar to moderate jaundice, usually following an attack of acute gastritis. The onset is attended with chill and fever, headache and vomiting.

TREATMENT.

See treatment for Acute Lithemia (page 199), which should be given in a very careful manner, particular attention being given to manipulating the liver and gall-bladder.

HEPATIC COLIC.

(Pain in the hepatic region, due to passage of gall-stones.)

SYMPTOMS.

Attack may be sudden, with pains along the margin of the ribs on the right side and right shoulder; patient becomes doubled up in agony; pulse rapid; retching and vomiting; profuse perspiration after paroxysms.

TREATMENT.

See Acute Lithemia (page 199).

In applying this treatment particular attention should be given to thorough manipulation and vibration (pages 36 and 67) of the liver and gall-bladder.

Diseases of the Pancreas.

THE PANCREAS.

The pancreas is a long, narrow, compound racemose gland of a cream color and soft texture, which lies across the posterior wall of the abdomen, behind the stomach, and opposite the first lumbar vertebra. It is about seven inches long; its structure resembles that of the salivary glands.

The broader end, or head, lies in and is embraced by the curvature of the duodenum; and the narrow end, or tail, is in contact with the spleen.

Capsule.—The gland has a thin connective-tissue capsule, which sends a fine process and septa between its lobules, and these septa carry into it the blood-vessels and nerves.

Ducts.—The **duct of Wirsung** runs along the whole length of the gland, and in its course it receives nearly at right angles contributory small ducts from the different lobules of the gland. It opens with the common bile-duct, piercing the coat of the latter obliquely. In man there is a small accessory duct opening independently into the duodenum.

The duct consists of connective tissue, and is lined by a single layer of non-striated columnar or cylindrical cells. When traced backward, the ducts open into intermediate or intercalary parts lined by flattened epithelium, while the intercalary parts open into the acini.

Condition of Blood-Vessels.—During secretion the blood-vessels behave like the blood-vessels of the salivary glands after stimulation of the chorda tympani. They dilate, and

the venous blood is bright red; thus it is probable that a similar nervous mechanism exists.

Nerves.—The nerves arise from the hepatic, splenic, and superior mesenteric plexuses, together with branches from the vagus and sympathetic. The secretion is excited by stimulation of the medulla oblongata, as well as by direct stimulation of the gland itself. It is not arrested by section of the cervical spinal cord. The secretion is suppressed by atropin (in the dog, but not in the rabbit), by producing vomiting, by stimulation of the central end of the vagus, as well as stimulation of other sensory nerves. Extirpation of the nerves accompanying the blood-vessels prevents the above named stimuli from acting. Under these circumstances a thin paralytic secretion, with feeble digestive powers, is formed, but its amount is not influenced by the taking of food.

Secretion.—As in other glands, we distinguish a quiescent stage, during which the gland is soft and pale, and a stage of secretory activity, during which the organ swells up and appears a pale red. The latter condition only occurs after a meal, and is caused, probably, reflexly, owing to stimulation of the nerves of the stomach and duodenum. The secretion begins to flow when food is introduced into the stomach, and reaches its maximum in two or three hours thereafter. The amount falls toward the fifth or seventh hour, and rises again, owing to the entrance of the chyme into the duodenum, toward the ninth and eleventh hour, gradually falling toward the seventeenth to the twenty-fourth hour, until it ceases completely. When more food is taken, the same process is repeated. As a general rule, a rapidly formed secretion contains less solids than one formed slowly.

ACUTE PANCREATITIS.

(Inflammation of the pancreas.)

SYMPTOMS.

Pain and tenderness in the epigastric region; colicky, and shooting pains to the back of the shoulder; thirst; anorexia; and other symptoms similar to Peritonitis.

TREATMENT.

1. With the patient lying upon the side; operator places his hands upon the upper cervicals, moving the muscles upward and outward, gently but deeply, the entire length of the spinal column, being very thorough in all regions which seem sensitive to the touch, or where the temperature is abnormal. Treat the opposite side in a similar manner.

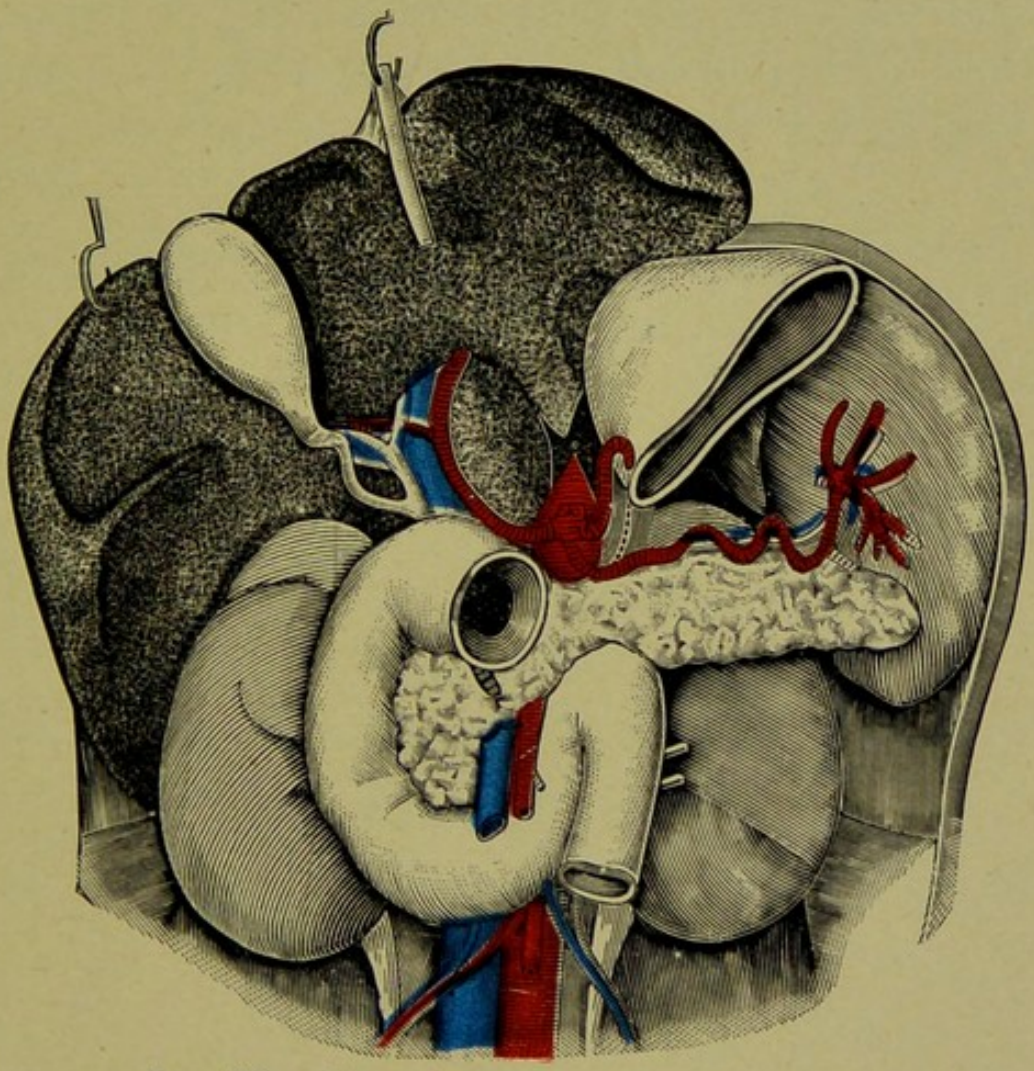
2. Place one hand under the chin, the other under the occipital; give strong extension, continued for one minute, using sufficient strength to move the patient's body slightly; manipulate carefully and thoroughly all the muscles of the neck.

3. Knead the bowels gently for a few moments, thus starting the circulation.

In case of constipation, very thorough Constipation Treatment (page 150) should be given.

4. Place the hand lightly over the pancreas, vibrating (pages 36 and 67) gently four or five minutes, thus freeing the circulation of the pancreas, and thereby reducing the inflammation.

5. Draw the arms slowly but strongly above the head, an assistant holding the patient's feet, giving rather strong extension for one minute. This treatment, it will be observed, stretches and moves the parts immediately over



Cut 26.—The Pancreas and Duodenum.

and around the pancreas, and very often gives immediate relief.

6. Place the hands upon the sides of the neck, fingers almost meeting over the upper cervicals; press gently three or four minutes (cut 13).

This treatment should be given every other day, and occupy about fifteen minutes. Immediate relief will be experienced, and, if given correctly, a speedy cure may be expected.

SUPPURATIVE PANCREATITIS.

(Inflammation of the pancreas, with suppuration.)

SYMPTOMS.

Emaciation; exhaustion; constipation; irregular fever; pain in the epigastrium; and evidence of tumor above the umbilicus.

TREATMENT.

See Acute Pancreatitis (page 218).

PANCREATIC CYST.

(Tumor in the pancreatic duct, due to impaction of calculi in the duct.)

SYMPTOMS.

Appearance of a tumor in the upper abdomen. May simulate ovarian tumor; sense of weight and fullness in the epigastrium; complexion yellow; tumor smooth, soft, and fluctuating.

TREATMENT.

See Acute Pancreatitis (page 218).

Treatment should be given every other day.

Diseases of the Spleen.

THE SPLEEN.

The spleen is the largest and most important ductless gland. It is undoubtedly related to the vascular system, yet its anatomical relations to the stomach and physiological relations to the liver may allow it to be described as an accessory to the digestive tract. It is placed deep in the left hypochondrium, between the fundus of the stomach and the diaphragm, above the descending colon. There is usually but one spleen, yet observation shows it may be congenitally lacking, or may be multiple, as many as twenty-three having been found in one body. These are called accessory or supernumerary spleens, and are probably occasioned by the deep notching of the anterior margin and separation of the included parts. They may be connected with the mother organ by thin bridges of splenic tissue, or only by a portion of capsule. They are usually wholly isolated, and situated in the gastro-splenic omentum, great omentum, transverse mesocolon, or in the pancreas on a branch of the splenic artery; frequently one or two are in the region of the hilus. They are the size of a hazel-nut, red, to almost black, in color, and of a rounded form. The spleen varies more in volume than any other organ, being relatively well developed in children, and atrophied in old age. It varies with the same individual, with sex, degree of fullness of the portal vein, state of health, or disease, and with the influence of certain drugs. It is hypertrophied in all infectious diseases. It may be so large as to reach the pelvis, and weigh many pounds.

The spleen is situated, under cover of the ribs, on the left side, being separated from them by the diaphragm, and above by a small portion of the lower margin of the left lung. Its position corresponds to the ninth, tenth, and eleventh ribs.

Blood-Vessels.—The **splenic artery** arises from the celiac axis, and is large and tortuous, dividing at the hilum into five or six branches, each supplying a segment of the organ, and terminating either in the venous radicles or in the lacunar spaces.

The **splenic vein** arises by radicles, partly from the capillary, partly from the lacunar spaces, and empties into the portal vein.

Nerves.—The **splenic nerves** are derived from the semilunar ganglion of the solar plexus and the right pneumogastric, forming the splenic plexus.

Function.—Leading authorities regard the spleen as a prominent source of white blood-corpuscles, which seems to be proven by the enormous number of them found in the blood in cases of leucocythemia as well as by the fact that they are more numerous in the region of the spleen than in any other part of the body. It is a very vascular organ, capable of very great distension, and becomes, in a passive way, a sort of safety-valve in relieving the portal system. It is also regarded as an organ in which many of the red blood-corpuscles undergo degeneration when their usefulness is impaired.

SPLENITIS.

(Inflammation of the spleen.)

SYMPTOMS.

Nausea; vomiting; aggravated respiration; elevation of temperature; pain and tenderness in the left hypochondrium.

TREATMENT.

1. Place the patient on the side; beginning at the upper dorsal, move the muscles upward and outward, gently but very deep, the entire length of the dorsal region, being very thorough where any tenderness or abnormal temperature is discovered. Treat the opposite side in a similar manner.

2. Place the patient on a stool; the thumb of the right hand on the angle of the eighth rib, with the left hand draw the left arm slowly but very strongly above the head, pressing hard upon the angle of the rib as the arm is lowered with a backward motion; place the thumb upon the angle of the next lower rib; raise the arm; and repeat, until the eleventh rib has been treated in a similar manner (cut 27). This portion of the treatment usually gives immediate relief.

3. Place the patient on the back; with the hand resting lightly over the spleen, vibrate (pages 36 and 67) gently three or four minutes.

4. Place the hands on the sides of the neck, fingers almost meeting over the upper cervicals; press gently three or four minutes upon the vaso-motor (page 253) to reduce the fever.

This treatment will occupy about fifteen minutes, and should be given each day.

SPLENIC HYPERTROPHY.

(Enlargement of the spleen. May occur as the result of blood diseases.)

SYMPTOMS.

Fever; weakness; diarrhea; disposition to hemorrhages; pain in the splenic region, which may extend to the left shoulder.

TREATMENT.

1. See Splenitis (page 224).

2. Flex the limb strongly against the abdomen, adducting the knee strongly as it is extended with a light jerk; repeat two or three times; treat the opposite limb in a similar manner. This treatment stretches the abductor muscles of the thigh, and thereby starts the circulation to the limb.

3. Place one hand under the chin, the other under the occipital, and give thorough extension of the neck; also manipulate the front and sides of the neck thoroughly, thus freeing the circulation to the head.

4. Place the patient upon a stool; bend strongly backwards over the operator's knee, the knee being placed against the spine just below the last rib; hold in this position a moment and repeat. This last treatment will almost invariably check the diarrhea in a very few days.

This treatment will occupy from twenty to twenty-five minutes, and should be given every other day until recovery.

SPLENIC HYDATID CYST.

(Tumor of the spleen).

SYMPTOMS.

When large enough to permit palpation, fluctuation may be detected, and characteristic cystic fluid may be withdrawn by aspiration.

TREATMENT.

1. Place the patient upon the right side; place the fingers of the right hand as far as possible under the ribs immediately over the spleen; with the left hand draw patient's left arm above the head, at the same instant, with

the right hand, raising the ribs as much as possible from the spleen. This treatment usually gives immediate relief.

2. Place the hand lightly over the spleen, and vibrate (pages 36 and 67) four or five minutes.

Treatment should be given every other day.

FLOATING SPLEEN.

(Mobility of the organ, due to relaxation of its attachments.)

SYMPTOMS.

The absence of the organ from its usual position. The presence of a solid body in an unusual position.

TREATMENT.

1. A thorough Treatment to Equalize the Circulation (page 114) will nourish and strengthen the attachments of the spleen, thereby enabling them to hold the organ in place.

2. After each treatment for the circulation, the operator should endeavor, by any manipulation which seems most suitable to the case, to move the organ toward its normal position.

Treatment should be given every other day.

Cut 27.—Raising the Eighth Rib.

Diseases of the Kidneys.

THE KIDNEYS.

The kidneys are two in number, situated in the back part of the abdomen, and are for the purpose of separating from the blood materials which, when dissolved in a quantity of water, also separated by the kidneys from the blood, constitute the urine.

They are situated one on each side of the vertebral column, behind the peritoneum, surrounded by a mass of fat and loose areolar tissue.

Their upper extremity is on a level with the upper border of the last dorsal vertebra, and their lower extremity is on a level with the third lumbar. The right kidney is usually a little lower than the left, probably on account of the vicinity of the liver.

The kidney is flattened, and presents, at one part of its circumference, a hollow. It is larger at its upper than at its lower extremity.

Each kidney is about four inches in length, two to two and a half in breadth, and a little more than one inch in thickness. The right is somewhat shorter, though somewhat broader, than the left.

The weight of the kidney in the adult male varies from four and a half to six ounces. In the adult female, from four to five and a half ounces.

Relations.—Their posterior surface is in relation with the crus of the diaphragm, the eleventh and twelfth ribs, and the quadratus lumborum and psoas magnus muscles. The

right is covered in front by the right lobe of the liver, the descending portion of the duodenum, and the beginning of the transverse colon. The left lies behind the fundus of the stomach, the tail of the pancreas, and the upper part of the descending colon.

At the hilum of the kidney the relative position of the main structures passing into and out of the organ is as follows: The vein is in front, the artery in the middle, and the duct or urethra behind and toward the lower part. (By a knowledge of these relations a student may distinguish between the right and left kidneys.)

Blood-Vessels.—Considering the size of the kidney, it is most abundantly supplied with blood. The renal artery, arising from the abdominal aorta, divides into four or five branches, which pass into the kidney at the hilum. These branches, surrounded by connective tissue continuous with that of the capsule, continue to divide, and pass between the papillæ to reach the bases of the pyramid on the limit between the cortical and boundary zones, where they form incomplete arches. From these horizontal trunks, the interlobular or radiate arteries run vertically and singly into the cortex, between each two medullary rays, and in their course they give off on all sides the short undivided vasa afferentia, each of which enters a Malpighian capsule at the opposite pole from which the urinary tubule is given off.

Nerves.—The nerves of the kidney, although small, are about 15 in number. They have small ganglia developed upon them, and are derived from the renal plexus, which is formed by branches from the solar plexus, and lower and outer part of the semilunar ganglion, and aortic plexus, and from the lesser and smaller splanchnic nerves. They communicate with the spermatic plexus, a circumstance which

may explain the occurrence of pain in the testicle in diseases of the kidneys. They accompany the renal artery and its branches, but their exact mode of termination is not known.

Nerve-Influence on the Kidneys.—With regard to the influence exerted by the nervous system on the renal secretion, there can be little doubt that here, as in other glands, the process is under the control of the nerves. Many of the conditions which cause increased secretion have no effect upon the general blood-pressure, so that if the increased flow be brought about by the vaso-motor mechanism, it must be by means of nervous channels altering the blood-flow in the special arteries of the glands. In some emotional conditions, such as hysteria, an unaccountably great amount of urine of very low specific gravity is evacuated.

The principal renal vaso-motor fibers leave the spinal cord by the anterior roots of the tenth, eleventh, and twelfth dorsal nerves.

In regard to the effects of the vaso-motor nerves, we know that section of all the nervous twigs going to the kidneys causes great congestion and an immense increase in the secretion. This undoubtedly depends upon the sudden rise in pressure in the glomeruli owing to the dilatation of the arteries.

If the great splanchnics, in which also are renal vaso-motor fibers, be cut, in addition to the lesser and smallest splanchnics, a great quantity of urine is produced from the vaso-motor paralysis, but, on account of the large area of vessels injured, the general blood-pressure falls; and the effect, therefore, is not so marked. If, on the contrary, the lesser and smallest splanchnic nerves be stimulated, the secretion is diminished, owing to the contraction of the renal arteries. Section also of the spinal cord at the

seventh cervical vertebra stops the flow, because it reduces the general blood-pressure below that necessary for the secretion of urine.

EXPLANATORY.

We desire to call the attention of the reader particularly to the large blood-supply of the kidneys, and the important duty which these organs are called upon to perform in separating the urine from the blood. With poor circulation, and the blood in a stagnant, diseased condition, it is obvious that the kidneys are laboring under a disadvantage, and must in time feel the effects of this extra effort; hence, in all kidney diseases, the first duty of the osteopath is to free the entire circulation; neither can we hope to have healthy kidneys for any length of time if the liver is in an abnormal condition; it is, therefore, advisable to look well to that organ, giving such treatment, if it is found diseased, as conditions would indicate. The nerves, also, play an important part, and we have no reason to hope for healthy kidneys if certain regions in the spinal column are in a sensitive or a congested condition.

So many complications are liable to arise in diseases of the kidneys that the results obtained from osteopathic treatment will depend largely upon the good judgment of the operator in making a correct diagnosis, and applying, in all cases, such accessory treatments for complications arising in individual cases as the conditions indicate.

ANURY, ANURIA, ANURESIS, OR RENAL INADEQUACY.

(Deficiency of the urine; of low specific gravity, containing but little urea, and neither albumin nor casts.)

TREATMENT.

1. Place the patient upon the face; beginning at the eighth dorsal vertebra, with one thumb on each side of the

spine, between the eighth and ninth vertebræ, press strongly a few seconds; with the thumbs between the ninth and tenth, repeat the operation; work in this manner between each successive vertebra, until the first lumbar is reached.

2. Place the patient on the back, with the knees slightly flexed, thus lessening the tension on the abdominal muscles; place the hands over the kidneys, the patient being required to make several strong expirations; with each succeeding expiration we come closer to the kidneys, until at last they are easily felt. The patient will now make thoracic respiration, that the manipulation of the kidneys may not be interfered with. Knead the kidneys gently but thoroughly, from without inward and slightly from above downward, that the pressure may be applied in the direction of the venous circulation and large number of renal canals. This treatment should be given in a very thorough manner, as it assists largely in exciting the kidneys to renewed action.

3. Place the hand over the kidney, and vibrate (pages 36 and 67) gently for two minutes over each kidney.

While the above treatment is very beneficial in stimulating the kidneys to greater activity, it is very often necessary to give General Treatment (page 306) or such part thereof as may, in the judgment of the operator, be deemed essential.

Treatment should occupy about fifteen or twenty minutes, and be given every other day.

ALBUMINURIA.

(Albumin in the urine, generally from defective action of the secretory tubes of the kidneys; detected by heating.)

TREATMENT.

See Acute Exudative and Productive Nephritis (page 239).

CHYLURIA.

(A discharge of milky urine, without apparent derangement of the kidneys or bladder, there being chyle in the urine, from communication between the lymphatic system and the genito-urinary tract; detected by microscope.)

TREATMENT.

Not treated successfully by Osteopathy.

HEMATURIA.

(Hemorrhages from the mucous membrane of the urinary passages. Blood in the urine. Small quantity and uniform admixture with the urine points to renal hemorrhages. Pure blood or clots mixed with the urine at the beginning or close of urination points to bladder or urethral hemorrhage.)

TREATMENT.

1. Place the patient on the face; with the thumbs of the operator upon each side of the spine, beginning at the eighth dorsal, pressing hard with the thumbs, move the muscles upward and outward; move the thumbs down to the next dorsal, and repeat until the second sacral vertebra is reached.

2. Place the patient upon a stool; the thumbs of the operator upon the angles of the second ribs, an asistant standing in front, raising the arms slowly, strongly, high above the head; press hard with the thumbs while the arms are lowered with a backward motion. Treat in this manner until the eighth ribs are reached.

3. Place the patient upon the back; one operator grasping the shoulders, another the feet, give thorough extension of spine.

4. Place the hand lightly over the kidney, and give thorough vibration (pages 36 and 67) three or four minutes. Treat the opposite kidney in a similar manner.

In case of other complications, see General Treatment (page 306), applying such portions thereof as will meet the conditions.

HEMOGLOBINURIA.

(Hemoglobin in the urine. Urine dark-red or chocolate-brown, high specific gravity, contains albumin, and few or no blood-cells.)

TREATMENT.

See Hematuria (page 234).

LIPURIA.

(Fat in the urine. May occur in health after excessive ingestion of fatty food; detected by adding potassium hydrate and shaking with ether.)

TREATMENT.

1. Place the patient on the side; beginning at the upper cervicals, move the muscles upward and outward very deeply the entire length of the spinal column, being very thorough over the splanchnic nerves, as it is here we will find conditions which are causing an obstruction to the nerve-wave, thereby interfering with their control of the digestive mechanism of the stomach, pancreas, and liver. Thorough treatment of these nerves stimulates them to greater activity.

2. Place the patient on the back; with one hand under the chin, draw the head backward and to the side; with the disengaged hand manipulate the muscles thoroughly and deeply over the pneumogastric, thus freeing and stimulating this nerve to great activity.

3. Place the hands over the stomach, vibrating (pages 36 and 67) gently two minutes. Vibrate the pancreas, liver, and kidneys in a similar manner.

This treatment will occupy about fifteen or twenty minutes, and should be given every other day.

During the course of this treatment, the patient should be confined strictly to a fruit and vegetable diet.

PYURIA.

(Pus in the urine. From suppuration in any portion of the genito-urinary tract; detected by microscope.)

TREATMENT.

1. Place the patient on the face; beginning at the last dorsal vertebra, with the thumbs on each side and close to the spinal column, move the muscles upward and outward gently, but very deep, being particular to treat thoroughly between the last lumbar and first sacral vertebra.

2. Place the patient upon the back, with one hip and limb off the edge of the table; place one hand upon the knee, the other under the great trochanter, pressing downward strongly upon the knee, at the same instant lifting upon the great trochanter. This treatment stretches the muscles through which passes a large portion of the urinary tract, thereby freeing the circulation in this immediate region. Treat the opposite side in a similar manner.

3. The kidneys and the entire urinary tract should be manipulated in a very thorough and careful manner.

Treatment will occupy about fifteen minutes, and should be given every other day.

OXALURIA.

(Calcium oxalate in the urine. From insufficient activity of the stage which should change oxalic acid into carbonic.)

SYMPTOMS.

Dull pain in the loins; boils or carbuncles; specific gravity of urine increased, and contains an excess of urea and oxalates.

TREATMENT.

1. Place the patient upon the back; grasping both knees, flex the limbs slowly but very strongly against the abdomen; with the knees in this position, press as hard as the patient can stand without too much pain, at the same time moving the limbs gently from side to side.

2. Flex one limb strongly upon the chest, giving it strong abduction, and extending with a light jerk. Treat the opposite limb in a similar manner.

3. Knead the kidneys carefully and thoroughly.

4. Place the hand over the liver, vibrating (pages 36 and 67) gently three or four minutes; also vibrate over the kidneys.

Treatment should occupy about ten or fifteen minutes, and be given every other day.

UREMIA.

(Toxic condition of the blood from accumulation of urea. Due to retention of poisonous materials which should be eliminated by the kidneys.)

SYMPTOMS.

Headache; nausea; vertigo; vomiting; dilatation of the pupils; delirium; convulsions; and coma.

TREATMENT.

1. Place the patient upon the side; beginning at the eighth dorsal, move the muscles upward and outward to the last lumbar vertebra, being very particular over the lesser splanchnic nerves to manipulate deeply, as it is here we are very apt to discover conditions which are the real cause of the failure of the kidneys to properly perform their duties.

2. Place the patient on the back; and knead the kidneys carefully and thoroughly; also give vibrations (pages 36 and 67).

It is often advisable in this disease, in addition to the above treatment, to give a thorough Treatment to Equalize the Circulation (page 114).

Treatment will occupy about twenty or twenty-five minutes, and should be given each day.

RENAL CONGESTION.

(Excess of blood in the kidneys.)

SYMPTOMS.

Amount of urine diminished, and of high specific gravity, 1020 to 1030, dark, and only small amounts passed at frequent intervals; uric acid increased, small amount of alumbin, hyaline casts, and few red blood-cells.

TREATMENT.

1. Place the patient on the side; beginning at the eighth dorsal, move the muscles upward and outward, very deep, to the end of the sacrum, thus freeing and stimulating the nerves which assist in controlling the kidneys. Treat the opposite side in a similar manner.

2. Place the patient face downward; the operator pressing very hard upon the sacrum, as an assistant raises

the limbs, slowly, as high as the patient can bear without great inconvenience, holding them in this position a moment, also moving them gently from side to side; lower the limbs; and repeat, this time, if possible, raising the limbs a little higher.

3. Place the hand lightly over the kidney, and vibrate (pages 36 and 67) gently two or three minutes. Treat the opposite side in a similar manner.

Treatment will occupy about fifteen minutes, and should be given each day, until recovery.

ACUTE EXUDATIVE AND PRODUCTIVE NEPHRITIS, OR ACUTE BRIGHT'S DISEASE.

(Inflammation of the kidneys, with exudation of plasma, red and white blood-cells; excessive growth of capsule-cells in the glomeruli; and overgrowth of connective tissue.)

SYMPTOMS.

May commence with a chill, followed by fever; pain in the loins; headache; eyelids puffy; extremities dropsical; diminished excretion; micturition frequent; urine smoky and reddish, specific gravity high, deficient in urea, contains albumin, hyaline, and blood-casts.

TREATMENT.

1. Patient lying face downward; beginning at the upper cervicals, with the thumbs on each side of and close to the spinous processes, pressing rather hard, move the muscles upward and outward the entire length of the spinal column, being very thorough in the lower dorsal and lumbar regions.

2. Place the patient on the back; the operator grasping the patient's shoulders, while an assistant, grasping the

ankles, assists in giving thorough and strong extension, which should be continued one minute.

3. Place the patient close to the edge of the table, the limb and hip lying over the side; place one hand upon the knee, the other under the trochanter; while lifting strongly upon the trochanter with one hand, with the other press the limb as far downward as possible, holding it a few seconds in this position. Treat the opposite limb in a similar manner.

4. Place the hand lightly over the kiney, and vibrate (pages 36 and 67) gently two minutes. Treat the opposite kidney in a similar manner.

5. Flex the limb strongly against the chest, while in this position moving it slowly from side to side; give the knee strong abduction, extending with a light jerk. Treat the opposite limb in a similar manner.

6. Place one hand on each side of the thigh, and move all the flesh gently but very deep from side to side the entire length of the limb. This and the above treatment frees the circulation to the limb, and will immediately relieve its dropsical condition.

7. Knead and manipulate the bowels carefully but deeply.

Treat twenty minutes each day, till a cure is effected.

CHRONIC EXUDATIVE AND PRODUCTIVE NEPHRITIS, OR CHRONIC BRIGHT'S DISEASE.

(May follow acute attacks. And develops in the course of syphilis, endorcarditis, tuberculosis, or bone diseases.)

SYMPTOMS.

Development slow. Dropsy; skin pasty in color; sclerotics very white; headache; insomnia; dyspnea; nausea; vom-

iting; urine deficient in urea and specific gravity; excess of albumin; casts abundant, both epithelial, fatty, and granular; few red blood-cells. More common in males.

TREATMENT.

1. See Exudative and Productive Nephritis (page 239).

2. Manipulate and vibrate (see Acute Lithemia, 7, 8, and 9, page 199) the liver in a very thorough manner.

3. Place the patient upon a stool; the knee of the operator between the scapulæ of the patient, grasp the wrists and draw the arms slowly but strongly above the head as the patient inhales (cut 5), pressing hard with the knee as the arms are lowered with a backward motion.

Treatment should be given every other day, and occupy about twenty or twenty-five minutes.

Patients suffering with this disease are very often benefited and occasionally cured by the above treatment.

DIABETES INSIPIDUS, OR POLYURIA.

(Excessive quantity of urine of low specific gravity.)

SYMPTOMS.

Urine pale and of low specific gravity, 1001 to 1005. Patient usually well nourished. Generally secondary to some disease of the brain or abdomen. More common in young males.

TREATMENT.

1. Place the patient upon the side; beginning at the first cervical, move the muscles upward and outward, carefully but very deep, the entire length of the spinal column. Be very thorough from the ninth dorsal vertebra to the second lumbar. Treat the opposite side in a similar manner.

2. Place the left hand upon the sarcum, just below

the last lumbar; with the right beneath the knees of the patient, the limbs should now be drawn toward the operator, upon a level with the table, after which they should be raised as far as the patient can stand without too much inconvenience, the operator pressing, at the same instant, very hard upon the sacrum; move the limbs until they are on a line with the body, and lower to the table (cut 31). Repeat this operation two or three times, raising the limbs a little higher with each succeeding operation.

3. Place the hand over the kidney, and vibrate (pages 36 and 67) for two minutes.

The above treatment acts directly upon the nerves, and, if given correctly, will immediately check the excessive flow of urine.

In case the disease is secondary to brain or abdominal troubles, it, of course, will be necessary to give such accessory treatment as the conditions indicate.

DIABETES MELLITUS, OR GLYCOSURIA.

(Excessive quantity of urine containing sugar.)

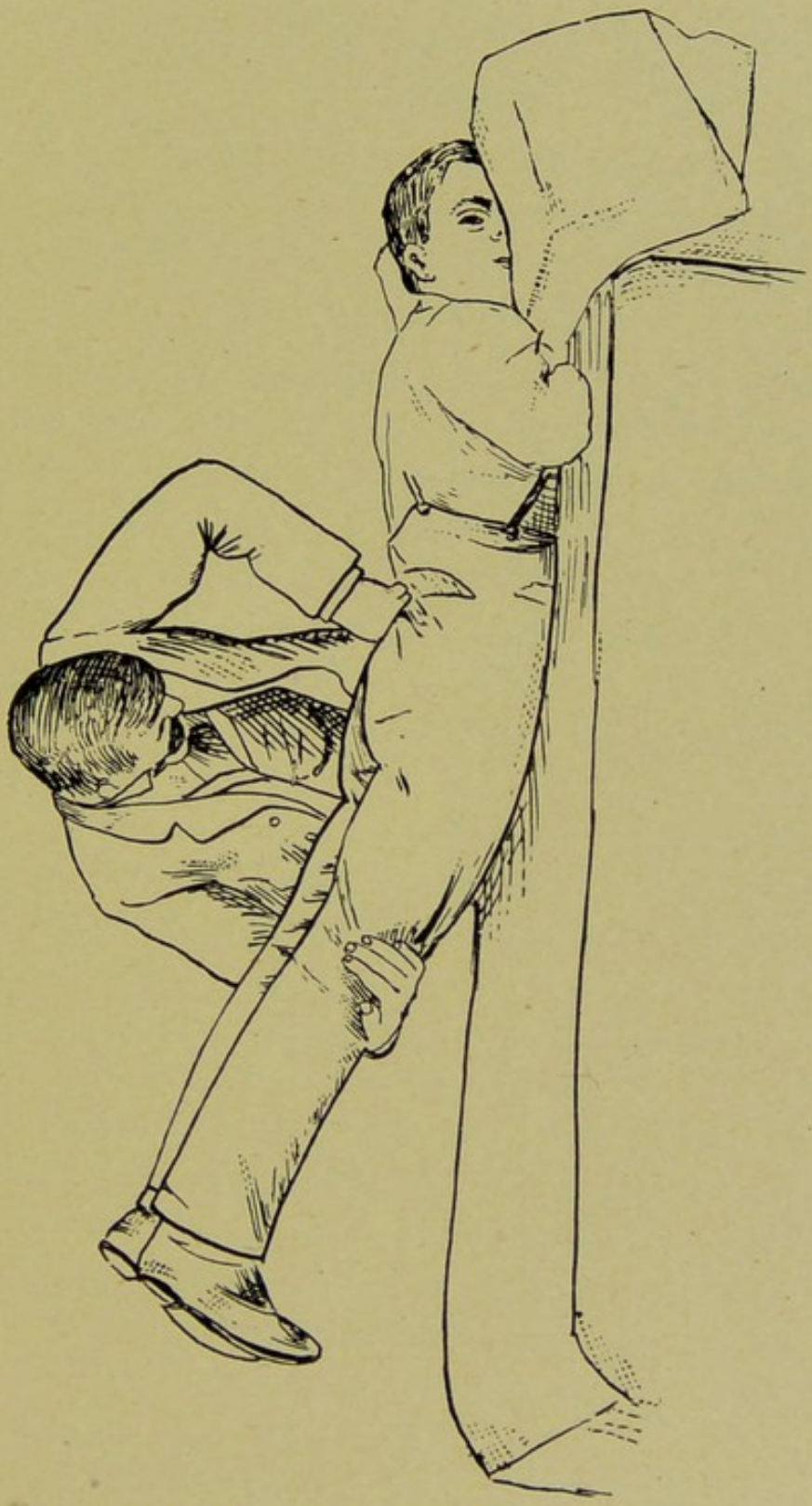
SYMPTOMS.

Urine pale, of high specific gravity, 1025 to 1045, acid reaction, and contains sugar; hunger; emaciation; muscular weakness; and loss of sexual power.

TREATMENT.

See Diabetes Insipidus (page 241).

This disease is very often benefited by the above treatment, using such other accessory treatment as the condition of the patient and judgment of the operator would indicate.



Cut 28.—Diabetes Insipidus.

PAROXYSMAL HEMOGLOBINURIA.

(Hemoglobin in the urine, accompanied by paroxysms.)

SYMPTOMS.

Languor; fatigue; feeling of chilliness; fingers, toes, and ears become numb, cold, and cyanotic. More common in young adult males.

TREATMENT.

In the treatment of this disease it is necessary to stimulate the nerves controlling the entire digestive tract, particularly the nerves of nutrition, which can be stimulated by thorough treatment in the upper dorsal region. It is also essential to expand the chest, thus stimulating the lungs to greater activity, and also freeing the circulation to these organs. The liver, pancreas, and kidneys must also be treated, with a view of equalizing and stimulating their action.

1. Place the patient upon the side; beginning at the upper cervicals, move the muscles upward and outward very deeply the entire length of the spinal column, being very thorough in all regions which appear at all sensitive to the touch, or in which the temperature is abnormal. Treat the opposite side in a similar manner.

2. Place the hand under the chin, drawing the head backward and to the side; with the disengaged hand manipulate the muscles immediately over the pneumogastric nerve. Treat the opposite side of the neck in a similar manner.

3. Vibrate (pages 36 and 67) one minute over each of the following organs: the lungs, stomach, liver, pancreas, and kidneys.

4. Place the patient upon a stool; the knee of the operator between the scapulæ at about the second dorsal,

draw the patient's arms strongly above the head, as the lungs are filled to their fullest capacity (cut 5); press hard with the knee as the arms are lowered with a backward motion.

This treatment will occupy about fifteen or twenty minutes, and should be given every other day.

PYELITIS.

(Inflammation of the pelvis of the kidney.)

SYMPTOMS.

Pain in the lumbar region; urine acid reaction; sediment, principally pus, but may contain blood.

TREATMENT.

1. Place the patient on his side; beginning at the last dorsal, move the muscles upward and outward, gently but very deep, the entire length of the lumbar and upper sacral region. Treat the opposite side in a similar manner. This treatment, if correctly applied, will remove almost immediately the pain in the lumbar region.

2. Manipulate the kidneys and entire urinary tract gently, but as thoroughly as possible.

3. With the patient lying upon the side, place one hand against the sacrum, with the other grasping the knee; draw the limb strongly backward, pressing hard at the same instant upon the sacrum.

4. Place the hand lightly over the kidney, vibrating (pages 36 and 67) one minute. Treat the opposite kidney in a similar manner.

Treatment should be given each day, and occupy about ten minutes.

RENAL CALCULUS, OR NEPHROLITHIASIS.

(Stone in the pelvis of the kidney.)

SYMPTOMS.

Constant dull pain in the lumbar region; following paroxysms, urine may contain blood; if calculus enters ureter, there is excruciating pain in its course; numbness of the thigh; nausea and vomiting.

TREATMENT.

1. Place the patient on the back, the operator's hands immediately over the kidneys; the patient will now be required to exhale several times very deeply; with each exhalation the hands are brought nearer the kidneys, until at last they can be felt very distinctly; patient will now make thoracic respiration, that the process of kneading the kidneys may not be interfered with.

In manipulating the kidney, great care must be exercised in endeavoring to move the stone towards its natural point of exit.

2. Place the hand over the kidney, and vibrate (pages 36 and 67) gently two or three minutes.

3. Place the patient on the face; the operator's thumbs upon each side and close to the spine, beginning at the ninth dorsal vertebra, move the muscles upward and outward, gently but very deeply, to the first sacral, being very thorough the entire length of the lumbar region.

Treatment should be given at short intervals, until the desired results are obtained.

HYDRONEPHROSIS.

(Dropsy of the kidneys, due to obstruction.)

SYMPTOMS.

Dull pain, with sense of fullness; periodical discharges

of large quantities of urine, as the obstruction is temporarily removed; rigor; sweat; and emaciation.

TREATMENT.

1. Place the patient on the side; beginning at the upper dorsal vertebra, move the muscles upward and outward the entire length of the spinal column, being very thorough in the splanchnic and lumbar region. Treat the opposite side in a similar manner.

2. Place the patient on the face; operator placing one hand upon the sacrum, the other beneath the knees, raise the limbs strongly, pressing at the same instant very hard upon the sacrum.

3. Place the hand lightly over the kidneys, vibrating (pages 36 and 67) each kidney two minutes.

4. Place the patient upon a stool; the operator places his thumbs upon the angles of the second ribs, an assistant raising the arms strongly above the head as the patient inhales; press hard with the thumbs as the arms are lowered with a backward motion; place the thumbs on the angles of the third ribs; raise the arms as before, and repeat until the lower borders of the scapulæ are reached.

This treatment will occupy about fifteen minutes, and should be given each day.

CHRONIC INTERSTITIAL NEPHRITIS.

(Overgrowth of connective tissue, with atrophy of the epithelium and tubules. Due to lead poison, gout, or alcoholism.)

SYMPTOMS.

Urine increased and of low specific gravity; frequent micturition; diarrhea; shortness of breath; arterial tension high; and hypertophy of the heart.

No cure in Osteopathy.

RENAL AMYLOID DEGENERATION.

(Starch-like degeneration of the renal capillaries.)

SYMPTOMS.

Albuminuria; edema; diarrhea; waxy complexion; urine pale, and specific gravity 1008 to 1014, containing hyaline casts and white blood-cells.

No cure in Osteopathy.

RENAL TUBERCULOSIS.

(Consumption of the kidney, with specific bacillus.)

SYMPTOMS.

As a rule, other organs of the body are involved. Urine generally contains pus and waste matter and tubercle bacilli; emaciation; and exhaustive perspiration.

No cure in Osteopathy.

RENAL CARCINOMA.

(Cancer of the kidney.)

SYMPTOMS.

Hematuria, and development of tumor; dull exacerbating pain in the lumbar region; anorexia; emaciation; cachexia; and edema of the lower extremities.

No cure in Osteopathy.

RENAL HYDATID CYST.

(Tumor of the kidney.)

SYMPTOMS.

Fluctuating tumor in the loin or lateral region. Peculiar thrill on percussion.

TREATMENT.

1. Place patient on the back; flexing the limb corresponding to the diseased kidney slowly, gently, gradually increasing the force used, as far as possible upon the abdomen; abduct the knee strongly as the limb is extended.

2. Place the patient in such position that the limb will hang over the edge of the table; placing one hand under the trochanter, with the other press the limb gently downward, being very careful not to cause much pain; raise the limb carefully, and again press it downward, this time a little further, if possible, than before.

3. Place the hand over the tumor, and vibrate (pages 36 and 67) two minutes.

Treatment will occupy about ten minutes, and should be given every other day.

RENAL ABSCESS.

(Abscess of the kidney. May be due to general pyemia, or to traumatism.)

SYMPTOMS.

Rigors; sweat; emaciation; urine may contain pus, albumin, tube casts, and blood-corpuscles; pain and tenderness in the renal region.

TREATMENT.

1. Place patient on the back; manipulate very carefully over the abscess, working gradually deeper, until the kidney has been manipulated as thoroughly as possible.

2. Place the hand over the abscess, and vibrate (pages 36 and 67) two minutes.

3. Place the patient on the face; while pressing hard upon the sacrum with one hand, draw the limb correspond-

ing to the diseased kidney backward slowly, but as far as possible. This operation should be repeated, the second time drawing the leg a little further backward.

Great care must be exercised in giving this treatment to cause no unnecessary pain. If given very gently, patient relaxing all muscles, quite a thorough treatment can be given even the first time.

Treatment will occupy about fifteen minutes, and should be given every day.

PERIRENAL ABSCESS.

(Suppuration in the perirenal connective tissue.)

SYMPTOMS.

Fluctuating tumor in the lumbar region; chills; fever; sweat; emaciation.

TREATMENT.

See Renal Abscess (page 250).

FLOATING KIDNEY.

(Mobility of the organ. Generally the right.)

SYMPTOMS.

A void in its usual position; sense of weight and dragging in the abdomen, with dull pain; sometimes nausea and vomiting. More common in females.

TREATMENT.

In treating this disease it is necessary to free the circulation and nerve-wave to the muscles and ligaments holding these organs in position.

1. Place the patient on the face; with the thumbs on each side of and close to the spine, move the muscles upward

and outward the entire length of the spinal column, being very thorough in the lumbar region, which will be found in a very sensitive condition.

2. Place the patient on the back; one operator grasping the shoulders, the other the feet, give very thorough extension, using as much strength as the patient can stand without too much inconvenience.

3. The operator should now endeavor, by any manipulation which seems most applicable to the case, to work the kidney back to its normal position.

Treatment will occupy about fifteen minutes, and should be given every other day.

ADDISON'S DISEASE.

(Disease of the suprarenal capsule.)

SYMPTOMS.

Skin discolored; appetite impaired; heart action feeble; pulse soft and slow; nausea and vomiting. Supposed to be tuberculous.

No cure in Osteopathy.

Fevers and Infectious Diseases.

THE VASO-MOTOR CENTER.

The chief or *general center*, supplying all the *non-striped muscles* of the arterial system with *motor fiber*, lies in the medulla oblongata at a spot which contains many ganglionic cells.

The nerves which pass to the blood-vessels contain *vaso-motor fibers*, and are known as *vaso-motor nerves.* The chief center reaches from the upper part of the floor of the medulla oblongata to within four to five m.m. of the calamus scriptorius (but in the higher animals other centers are distributed throughout the spinal cord which are able to take the place of the great primary center).

Each half of the body has its own center in that part of the medulla oblongata which represents the upper continuation of the lateral column of the spinal cord.

Stimulation of this central area causes *contraction* of all the arteries, and in consequence there is great increase of the arterial blood-pressure, resulting in swelling of the veins and heart.

Paralysis of this center causes *relaxation* and *dilatation* of all the arteries, and consequently there is an enormous fall of the blood-pressure.

Under ordinary circumstances the vaso-motor center is in a condition of moderate tonic excitement.

Just as in the case of the cardiac and respiratory centers, the vaso-motor center may be excited *directly* or *reflexly.*

From the *vaso-motor center* fibers proceed *directly* through some of the cranial nerves to their area of distribution; through the trigeminus partly to the interior of the eye, through the lingual and hypoglossal to the tongue, and to the intestines by the splanchnics.

All the other vaso-motor fibers descend in the lateral column of the spinal cord; hence stimulation of the lower cut end of the spinal cord causes contraction of the blood-vessels supplied by the nerves below the point of section.

The cervical portion of the *sympathetic* supplies the great majority of the blood-vessels of the head.

The vaso-motor fibers to the upper extremities pass through the anterior roots of the middle dorsal nerves into the thoracic sympathetic and upward to the first thoracic ganglion, and from thence through the rami communicates to the brachial plexus.

The skin of the trunk receives its vaso-motor fibers through the dorsal and lumbar nerves.

The lungs are supplied from the dorsal spinal cord through the first thoracic ganglion.

The vaso-motor fibers to the lower extremities pass through the nerves of the lumbar and sacral plexuses into the sympathetic, and from thence to the lower limbs.

The *splanchnic* is the greatest vaso-motor nerve in the body, and supplies the abdominal viscera.

In referring to the above, from Landois, it will be observed (1) that the chief vaso-motor nerve-center is situated in the medulla oblongata; (2) that the majority of and all the most important vaso-motor nerves descend in the lateral column of the spinal cord; and (3) that stimulation of the vaso-motor causes contraction of all the arteries, and a consequent enormous increase of the *arterial* blood-pressure,

resulting in swelling of the veins and heart; while paralysis of the same center causes relaxation and dilatation of all the arteries, and a consequent immense fall in the *general* blood-pressure.

It is impossible for the osteopath to reach *directly* the center in the medulla oblongata. The same results are attained, however, through so-called "*reflex action*," by a pressure upon the upper cervicals—where is situated the most important subsidiary center—at the same instant tipping the head backward, thus bringing the neck into such a position as to throw a pressure upon the nerves over the cervical vaso-motor center. A steady pressure at this point for a few moments reduces the general blood-pressure, slows the action of the heart, and will reduce the temperature of the body in one-half the time required by any other known method.

Place the fingers upon the sides of the neck, the tips almost meeting over the spines of the upper cervicals; tip the head backward, and press gently with the fingers four or five minutes, to reduce a fever.

EXPLANATORY.

Why the Osteopath Prefers Chronic Cases.

In the treatment of fevers and other acute diseases, Osteopathy is destined, in the near future, to play an important part. At present, however, the osteopath prefers only chronic cases, for several very important reasons.

(1) Osteopathy is in its infancy, and not only the profession, but the laity, must be educated to the fact that it possesses many virtues. A chronic invalid, who has tried every other known method without success, is usually willing to give the new science a fair trial, and if cured or benefited, which is usually the case, never tires of singing the praises of

Osteopathy. On the other hand, very many acute cases, which would require weeks of treatment by the old method, if an osteopath is called at once, the patient is cured so quickly that he imagines there was nothing radically wrong. If the case proves at all stubborn, and does not respond quickly to osteopathic treatment, the patient and his friends are very apt to become frightened, without giving Osteopathy a fair trial, and call in an M.D., in whose hands he lingers uncomplainingly for months, dying, perhaps, with the pleasant thoughts that he is taking all kinds of medicine and has had a consultation of leading physicians to pronounce the death-sentence. Had he given Osteopathy a trial of two weeks, instead of two days, he might at that time have been convalescent.

(2) Chronic cases can visit the office, and seldom require treatment oftener than every other day; while in fevers the patient must be visited at his home, and should be treated every four or six hours.

For the above reasons, Osteopathy deals principally with chronic cases.

In fevers, as in other diseases, we seldom find two cases exactly alike; it will therefore depend largely upon the good judgment of the operator in applying the proper treatment to the various conditions as they arise, whether or not he attains success.

ARDENT FEVER.

(Non-specific, continued fever, peculiar to warm climates.)

SYMPTOMS.

Severe headache, with throbbing in the temples; may be delirium. Resembles inflammatory fever.

TREATMENT.

1. Place the patient upon the back; one hand under the chin, the other under the occipital bone, give gentle extension, rotating the head from side to side.

2. Manipulate all the muscles of the neck thoroughly, carefully, and very deep.

3. In all cases of diarrhea, place the hands under the patient, the ends of the fingers pressing close to the spine, immediately below the last dorsal vertebra; raise the patient gently until only the hips and shoulders rest upon the bed; hold in this position a few seconds; lower the patient; and repeat. This treatment should be given in all cases of fever where diarrhea is present.

4. Place the hand lightly over the abdomen, vibrating gently three or four minutes (pages 36 and 67).

5. Place the hands upon the sides of the neck, the finger-tips almost meeting over the spinous processes of the upper cervicals; tip the head slightly backward, thus bringing a direct pressure upon the cervical vaso-motor center; hold the head in this position, pressing gently, for four or five minutes, at the end of which time the fever will be reduced and the patient in a light perspiration (cut 13).

This treatment should be given every four or six hours, treatment occupying about ten or fifteen minutes.

THERMIC FEVER, SUNSTROKE, OR INSOLATION.

(Due to exposure to extreme heat.)

SYMPTOMS.

Unconsciousness; high temperature; rapid pulse; headache; nausea; vertigo; inability to swallow; snoring; frequent micturition.

TREATMENT.

1. Place the patient in a cool place, applying ice or pouring cold water on the head.

2. Flex the limbs strongly against the abdomen, giving them strong abduction, and extend with a light jerk.

3. Draw the arms strongly above the head, lowering them with a backward motion, while pressing hard upon the dorsal vertebra between the scapulæ. This treatment tends to draw the blood from the head and equalize the circulation.

4. Place the hands under the chin and occipital bone, giving light extension of the neck, rotating the head gently from side to side. Manipulate all the muscles of the neck in a very thorough manner.

5. If high fever, place the hands upon the sides of the neck, the fingers almost meeting over the spines of the upper cervicals; tip the head backward, pressing hard with fingers five minutes.

If the patient dies, it is generally in about nine hours after the attack. Many never completely recover.

Treatment should be repeated every few hours during the first few days, after which a treatment every day is sufficient.

SIMPLE CONTINUED FEVER.

(Elevation of temperature, with no definite lesion. May be due to fatigue, error in diet, anxiety, exertion, etc.)

SYMPTOMS.

Chilliness and fever; headache; thirst; tongue coated; urine scanty and high-colored.

TREATMENT.

1. See Ardent Fever (page 257).

2. Place the patient on the side; beginning at the seventh dorsal vertebra, move the muscles upward and outward thoroughly and deep, through the splanchnic and lumbar regions. Treat the opposite side in a similar manner.

Treatment should be given each day, and occupy about ten or fifteen minutes.

Patient should have perfect rest, and be confined to a fruit and vegetable diet.

LA GRIPPE, INFLUENZA, OR CATARRHAL FEVER.

(Specific, infectious, essential, continued fever.)

SYMPTOMS.

Catarrhal inflammation of the nose; headache over the eyes and root of the nose; soreness in back and limbs; aching of muscles and stiffness of neck; temperature irregular; tongue coated; urine scanty, high-colored, and light or profuse; skin hot, dry, and sensitive. May last a few days or weeks.

TREATMENT.

1. Place the hands under the chin and occipital bone; give careful extension of the neck, pulling until the body moves.

2. Rotate the head from side to side, manipulating very thoroughly the muscles on the front and sides of the neck, thus freeing the circulation to the head.

3. Place the thumb upon one side, the index finger upon the other, of the root of the nose, and press gently, working the thumb and finger as deep as possible, without pain, into the corners of the eyes; after which, pressing gently, move the thumb and finger up and down the nose, moving the muscles, and not permitting the skin to slip

beneath the thumb and finger. This treatment is very beneficial, and should not be omitted.

4. Place the patient on the side; beginning at the upper cervicals, move the muscles upward and outward the entire length of the spinal column, being very thorough in all regions where tenderness is discovered. Treat the opposite side in a similar manner.

5. Flex the limbs strongly upon the abdomen, giving them strong abduction, and extending with a light jerk.

6. Knead the bowels gently two or three minutes; vibrate (pages 36 and 67) one minute each, the lungs, stomach, and liver.

7. Place the hands upon the sides of the neck, the fingers almost meeting over the spines of the upper cervicals; tip the head backward, pressing hard upon the vasomotor center (page 253) four or five minutes, to reduce the fever.

This treatment will occupy twenty or twenty-five minutes, and should be given each day, until recovery. If given correctly, very gratifying results may be expected immediately after the first treatment.

HAY FEVER.

(An infectious, specific catarrh of the respiratory passages. Probably due to the pollen of certain plants, of which ragweed is the most common. Also called Hay Asthma, Ragweed Fever, Autumnal Catarrh, June Cold, Rose Cold, Idiosyncratic Coryza, and Periodic Vasomotor Coryza.)

SYMPTOMS.

Itching and burning, and lachrymation of the eyes; pain in the brow or eyeballs; itching of the nasal mucous membrane, and irritating watery discharge; a similar condition

is in the throat, when affected, and may attack the bronchial mucous membrane; cough and dyspnea.

TREATMENT.

1. See La Grippe, 1, 2, and 3 (page 259).

2. Place the patient upon a stool; the operator placing the thumb of his left hand upon the angle of the second rib of the right side, with the right hand draw patient's right arm slowly but strongly above the head as patient inhales; press hard with the thumb as the arm is lowered with a backward motion; move the thumb down to the angle of the next lower rib, and raise the arm as before; repeat this operation, until the sixth rib has been reached. Treat the opposite side in a similar manner.

3. Place the patient on the back; the right hand resting lightly upon the center and upper part of the thorax, vibrate (pages 36 and 67) gently two minutes.

Treatment will occupy about twenty minutes, and should be given each day. Immediate relief will be the result of the first treatment.

MALARIAL FEVER, OR AGUE.

(Periodic paroxysms of chill, fever, and perspiration. Associated with unicellular organism.)

SYMPTOMS.

Chills sets in with nausea, vertigo, shivering; teeth chatter; skin cold and rough; coldness gives way to warmth; surface of the body becomes flushed; eyes brilliant, followed by copious perspiration. May be intermittent, remittent, or pernicious.

TREATMENT.

1. Place the patient upon a stool; the operator placing the thumbs upon the angles of the second rib, an assist-

ant standing in front raises the arms very strongly above the head, as the patient inhales; press hard upon the ribs, while the arms are lowered with a backward motion (cut 24), the patient permitting the elbows to bend. Move the thumbs down to the next lower rib, and raise the arms as before; and repeat, until the last dorsal is reached.

2. Place the patient on the back; one operator grasping the shoulders, an assistant the feet, give thorough extension of the spine.

3. With the patient in the same position, flex the limbs, one at a time, strongly against the abdomen, abducting the knee strongly, and extending the limb with a light jerk.

4. Manipulate the muscles of the neck gently but very deep, thus freeing the circulation to the head.

5. Place the hand lightly over the liver, and vibrate (pages 36 and 67) strongly two minutes.

6. Place the hands on sides of patient's neck, in case of fever, finger-tips almost meeting over the spinous processes of the upper cervicals; tip the head backward and press strongly three or four minutes upon the vaso-motor center (cut 13).

CEREBRO-SPINAL FEVER, SPOTTED FEVER, OR CEREBRO-SPINAL MENINGITIS.

(Of specific, infectious, continued type; dependent upon inflammation of the cerebral and spinal meninges.)

SYMPTOMS.

Rigor; fever; nausea; thirst; vomiting; excruciating headache; rigidity of head and neck; retraction of the head; backache; extreme prostration; delirium; stupor and coma; temperature fluctuates; pulse rapid and irregular. Between

the third and sixth day herpetic vesicles may appear on the face about the mouth; may be incontinence or retention of urine; may be strabismus, vertigo, tinnitus aurium, and loss of sense of smell; tongue usually clear.

TREATMENT.

1. Place the patient on the side; beginning at the occipital bone, move the muscles upward and outward, carefully but very deep, through the cervical and dorsal regions. Treat the opposite side in a similar manner. Great care must be exercised in giving this treatment to manipulate the muscles which are contracted, until they relax, thus freeing the undue pressure upon the nerve- and blood-supply in this region.

2. Place the patient on the back; with one hand under the chin, draw the head backward and to the side; with the disengaged hand manipulate the muscles upon the side of the neck; reverse, and treat the other side in a similar manner.

3. Place the left hand upon the top of the patient's head; place the right hand and arm under the patient's head and neck, the fingers between the scapulæ at about the fourth or fifth dorsal, two fingers upon each side of the spinous process; press strongly upward with the fingers, moving them slowly toward the head, at the same instant pressing upon the head with the left hand and rotating it from side to side, which rotation and pressure must be continued until the fingers of the right hand, gradually working toward the head, have reached the upper cervicals (cut 46).

4. Place the hands beneath the chin and occipital bone, giving strong extension of the neck, continued one minute.

5. Place the hands under the patient's shoulders; an assistant grasping the feet, pull slowly, gradually increasing the strength, until thorough extension of the spine has been given. This treatment, together with extension of the neck and manipulation of the spinal muscles, frees the venous circulation from the spinal cord, an obstruction of which is the true cause of this dread disease.

6. Place the hands upon the sides of the neck, the fingers almost meeting over the spinous processes of the upper cervicals; tip the head backward, pressing hard with the fingers upon the vaso-motor center (page 253) for five minutes.

This treatment will occupy about twenty minutes; and, if correctly administered, will give immediate relief. Treatment should be given about every six hours.

A skilled osteopath, if called in any reasonable time, has never been known to lose a patient suffering with this disease.

TYPHUS FEVER.

(Acute, infectious, essential fever; peculiar to crowded and unwholesome places among the poor and wretched. Also known as Famine Fever, Ship Fever, and Jail Fever.)

SYMPTOMS.

Rapid rise of temperature; headache; pain in the back and limbs; stupor; rapid pulse; face livid; on fourth or fifth day a spotted eruption appears on the extremities; delirium; intolerance of light; tongue brown and cracked; sordes on teeth and gums; urine scanty and high-colored; temperature usually 102° to 104°.

TREATMENT.

1. Place the hands under the chin and occipital, and give gentle extension, pulling until the body moves slightly; manipulate thoroughly all the muscles of the front, sides, and back of the neck.

2. Vibrate (pages 36 and 67) gently for one minute each of the following organs: lungs, liver, pancreas, kidneys, and bowels.

3. Place the hands upon the sides of the neck, fingers almost meeting over the upper cervicals; tip the head backward, pressing hard with the fingers upon the vaso-motor center (page 253) for five minutes, to reduce the fever.

This treatment should be given each day, except holding the vaso-motor, which should be given about every six hours.

While the cure of this fever is slow, it can be effected in about one-half the length of time required by any other method.

TYPHOID FEVER, OR ENTERIC FEVER.

(Acute, infectious, essential, continued fever, resembling typhus, with inflammation, swelling, and ulceration of Peyer's glands, softening of the mesenteric glands, and tumefaction of the spleen.)

SYMPTOMS.

Headache; pain in the back; bleeding from the nose; loss of appetite; temperature characteristic of evening exacerbations and morning remissions, usually varying from 103° to 105°; tongue coated in the middle, with red tip and edges; tenderness of the abdomen, and tympanites; usually diarrhea, stools yellowish, with fetid odor; pupils dilated; and frequently delirium and intestinal hemorrhages. Duration usually three to five weeks.

TREATMENT.

See Typhus Fever (page 265).

This form is more obstinate than the Typhus, and so speedy a cure should not be expected. A great deal is dependent upon proper and careful nursing in the treatment of this disease.

WEIL'S DISEASE.

(Febrile disorder, resembling typhoid fever. Peculiar to butchers, brewers, and laborers.)

SYMPTOMS.

Chill; fever; headache; vomiting; pains in the epigastrium; diarrhea; jaundice; stupor; delirium; coma; black vomit.

No cure in Osteopathy.

YELLOW FEVER.

(Specific, epidemic disease of hot climates.)

SYMPTOMS.

Chill; fever; temperature 102° to 104°; capillary congestion of the face and eyes; pains in the head, back and calves of the legs; thirst; stomach irritated; vomit black; skin deep yellow; jaundice; constipation; mind usually clear; tendency to hemorrhages from the mucous surfaces.

No cure in Osteopathy.

ASIATIC CHOLERA.

(Acute, specific, infectious disease, peculiar to tropical climates.)

SYMPTOMS.

Vomiting; diarrhea, stools "rice water" appearance; thirst; eyeballs sunken; skin cold and shrunken; voice lost;

respiration shallow and rapid; muscular cramps; suppressed urine; temperature normal or suppressed.

No cure in Osteopathy.

SCARLET FEVER, OR SCARLATINA.

(Acute infectious disease, with scarlet eruptions.)

SYMPTOMS.

Temperature rises suddenly to 104° or 105°; pulse rapid; red rash on neck and breast; pain in swallowing; headache; vomiting; strawberry tongue; skin hot and dry.

TREATMENT.

1. Place the patient on the side; beginning at the upper cervicals, move the muscles upward and outward, gently but deep, as low as the last dorsal vertebra. Treat the opposite side in a similar manner.

2. Manipulate the muscles in the front and sides of the neck, thoroughly and deeply.

3. Place the hands under the chin and occipital bone; give careful extension of the neck, pulling, slowly and gently, until the body moves.

4. Place the hands upon the sides of the neck, finger-tips almost meeting over the spinous processes of the upper cervicals; tip the head backward, pressing quite hard with the fingers, for five minutes, upon the vaso-motor center (page 253 and cut 13).

Treatment will occupy ten to fifteen minutes, and should be given each day.

RÖTHELN, ROSEOLA, RUBELLA, SPURIOUS SCARLET FEVER, FALSE MEASLES, BASTARD MEASLES, GERMAN MEASLES, OR FRENCH MEASLES.

(Specific, infectious disease, with rose-colored efflorescence on the skin, resembling both measles and scarlet fever, but not identical with either.)

SYMPTOMS.

Elevation of temperature; pulse very rapid; eruption first appears on face; sore throat; coryza; cervical glands enlarged.

TREATMENT.

See Scarlet Fever (page 267).

MORBILLI, RUBEOLA, OR MEASLES.

(Acute, infectious, eruptive disease, peculiar to children.)

SYMPTOMS.

Quick rise of temperature to 102° or 104°; watery eyes; restlessness; headache; sneezing; running from the nose; often cough and slight sore throat; digestion disturbed; coarse pink papules appear about the fourth day.

TREATMENT.

1. See Scarlet Fever (page 267).

2. Place the thumb of the left hand upon the angle of the second rib on the right side of the spine; draw the patient's right arm high above the head as he fills the lungs to their fullest capacity; lower the arm with a backward motion, pressing hard at the same instant upon the angle of the rib. Treat the third, fourth, and fifth rib in a similar manner. Also the same ribs on the opposite side of the body.

PERTUSSIS, OR WHOOPING-COUGH.

(Specific, infectious, catarrhal inflammation, involving especially the trachea and bronchi, with paroxysmal cough.)

SYMPTOMS.

Redness of mucous membranes of eyes, nose, and throat; cough dry at first, becoming more frequent, paroxysmal, ringing, and accompanied by a shrill, reiterated whoop; frequently vomiting; purulent discharge from the nose; capricious appetite; restless sleep and slight fever. In duration it varies from one week to one year, usual period ranging from three weeks to three months.

TREATMENT.

1. Place the hand under the chin, drawing the head backward and rotating it to the side, at the same instant manipulating the muscles, carefully but deep. Treat the opposite side of the neck in a similar manner. Also manipulate the muscles immediately about the trachea, drawing the trachea upward as much as possible.

2. Place the hands under the chin and occipital bone, giving gentle extension and rotation.

3. Place the knee between the scapulæ, at about the second dorsal; draw the arms slowly but strongly upward as the patient inhales, lowering them with a backward motion, pressing hard with the knee upon the upper dorsal region.

4. Place the patient on the back; the hand resting lightly over the bronchi, vibrate (pages 36 and 67) gently two minutes.

5. Place the hands upon the sides of the neck, finger-tips almost meeting over the upper cervicals; tipping the head slightly backward, press gently four or five minutes upon the vaso-motor center (page 253).

PAROTIDITIS, OR MUMPS.

(Acute, specific, infectious inflammation of the parotid glands.)

SYMPTOMS.

Swelling and pain in one or both parotid glands; movements of the jaw and mastication painful; slight fever with more or less headache. There is little danger, although there are instances in which, from exposure to cold, the disease has been transmitted to the testicles of boys and to the breasts of girls with serious results.

TREATMENT.

1. Place the hands under the chin and occipital bone, giving gentle extension and rotation of the neck.

2. Manipulate thoroughly all muscles of the neck, being particularly thorough in the region of the parotid gland.

These manipulations free the circulation to the head, and will cure any case of mumps in a very few days. Treatment should be given each day.

VARIOLA, OR SMALL-POX.

(Specific, infectious disease, with papular eruptions.)

SYMPTOMS.

Chill; fever; headache; vomiting; swelling; pain in back; coated tongue; papular eruptions—at first vesicles, becoming pustules.

Not treated by osteopaths.

VARICELLA, OR CHICKEN-POX.

(Acute, specific, infectious disease, peculiar to children.)

SYMPTOMS.

Elevation of temperature; eruption of papules, which become vesicles; eruptions appear on scalp, face, trunk, and extremities.

TREATMENT.

1. Place the patient on the side; beginning at the upper cervicals, move the muscles upward and outward the entire length of the spinal column, gently but deep. Treat the opposite side in a similar manner.

2. Flex the limbs, one at a time, strongly against the abdomen, giving the knee strong abduction as the limb is extended with a light jerk.

3. Place the hands under the chin and the occipital bone, giving gentle extension and rotation of the head and neck.

4. Draw the arms slowly but strongly above the head as the patient inhales, lowering them with a backward motion.

5. Hold the vaso-motor (page 253).

ERYSIPELAS.

(Acute, specific, infectious disease, with inflammation of the derma and subcutaneous tissue.)

SYMPTOMS.

Chill; fever; appearance on the cheek of an area of red induration; redness increases in extent, and attended with swelling; tongue coated; anorexia; and often sore throat.

TREATMENT.

This disease is caused by an obstruction to the venous circulation, and should be treated with a view of freeing said

circulation between the seat of disease and the heart. If in the leg, flex the limb, gently at first, but with increasing strength, using great care to give no unnecessary pain; abduct the knee strongly as the limb is extended. This treatment should be repeated, growing stronger each time, until finally the limb can be flexed against the abdomen, thus stretching all the muscles of the thigh and freeing the circulation.

It is also well to grasp the limb with both hands close to the thigh, rotating the flesh as deeply as possible, working down the entire length of the limb in this manner.

If in the head, a very thorough treatment of the neck should be given, manipulating the muscles very thoroughly and deeply, also giving extension.

Working upon these principles, erysipelas in any part of the body can be treated successfully and cured in a very few days.

Treatment should be given each day and occupy about fifteen minutes.

DENGUE.

(Acute, infectious disease, with severe pains in muscles and joints.)

SYMPTOMS.

Anorexia; headache; vertigo; drowsiness; elevation of temperature; stiffness of the neck; pain along the spine and lumbar region; eruptions resembling scarlatina.

TREATMENT.

1. Place the patient on the side; moving the muscles upward and outward, gently but very deep, the entire length of the spinal column, being particular to manipulate the

muscles very deeply in the back of the neck and lumbar region.

2. Flex the limbs gently against the abdomen, and give strong abduction as they are extended.

3. Knead very thoroughly all the muscles around the joints, thus freeing the circulation and thereby relieving the pain.

4. Place the hands under the chin and occipital bone, giving gentle extension and rotation of the neck; also manipulate carefully and deeply the muscles of the front and sides of the neck.

5. Hold vaso-motor (page 253) four or five minutes.

This treatment will give immediate relief, occupying about fifteen minutes, and should be given each day, until recovery.

DIPHTHERIA.

(Acute infectious disease, most commonly affecting the throat, characterized by a tendency to the formation of a fibrinous exudation constituting a false membrane.)

SYMPTOMS.

Diphtheria is divisible into two forms, *simple* and *malignant*. In the simple variety, happily the most common, the symptoms are at first so mild as to excite little complaint beyond a slight difficulty of swallowing or pain in the throat, burning skin, pains in the limbs, etc.

Malignant diphtheria is ushered in with severe fever, rigors, vomiting or purging, sudden great prostration and restlessness,anxious countenance,etc.,pointing to some overwhelming disease under which the system is laboring. The skin is hot, the face flushed, the throat sore, and the mucous membrane of the throat bright red; the tonsils are swollen,

and gray or white patches of deposit appear on them, small at first, but gradually enlarging, so that one patch merges into another, forming a false membrane in the throat, rendering swallowing and even breathing difficult; in some cases the false membrane has been detached and after extreme effort ejected, presenting nearly an exact mold of the throat. The exudation of diphtheria may be distinguished from a slough by its easily crumbling, by the facility with which it can often be detached, and by the surface thus exposed being red, but not ulcerated. The glands of the neck are always enlarged; sometimes pain is felt in the ear, and there is generally stiffness of the neck.

As the disease progresses, the patient passes into a stupor, and the difficulty of swallowing or breathing increases till the false membrane is ejected, or the patient dies from suffocation, or he sinks from exhaustion similar to that observed in typhoid fever.

Dangerous symptoms are a quick, feeble, or very slow pulse, persistent vomiting, drowsiness, delirium, suppressed urine, and bleeding from the nose.

CAUSE.

Diphtheria is caused by a contraction of the muscles of the neck and thorax, as well as by a contraction of the muscles of respiration, which, interfering with the circulation of the fluids of the body, cause the inflamed condition of the larynx, bronchial tubes, and throat.

Diphtheria, even in its most malignant form, succumbs to the following treatment.

TREATMENT.

1. Place the patient on the back; with one hand under the chin, the other under the back of the head, pull gently, rotating the head from side to side (cut 8).

2. Pull slowly and strongly until the body moves, without rotating the head.

3. With the fingers, beginning under the chin, move all the muscles of the neck from side to side.

4. Place the finger in patient's mouth and move the muscles of the throat gently; this loosens the membrane, which usually will be immediately expelled.

5. With one hand draw the arm high above the head; at the same instant, with the fingers of the other between the spine and scapula at its upper border, press firmly on the angle of the rib, lower the arm with a backward motion, move the fingers one inch down the spine, draw up the arm, and repeat until the lower border of the scapula is reached. Treat the other side in a similar manner.

6. Place the arms around patient's body, the fingers meeting at the spine immediately below the last ribs, and, while pressing with the fingers on each side of the spine, raise the patient's body slowly and gently until only the hips and shoulders rest on the bed; this should be repeated two or three times, moving the hands two or three inches each time toward the head; it will instantly stop all purging and vomiting.

7. Place one hand on each side of the neck, the fingers almost meeting below the occipital bone (see cut 13); press gently for two or three minutes. It is here you reach nerves that control the caliber of the arteries, thus slowing the action of the heart.

Diphtheria in its most malignant form has never, in our experience, failed to yield readily to this treatment, instant relief being experienced and a complete cure effected in a very few days. Treatment should be given every six hours, and the vaso-motor center (cut 13) may be held at any time, as it always gives relief.

BRAIN FEVER.

(Inflammation of the brain or its membranes.)

EXPLANATORY.

Referring again to the anatomy, we find that the brain, the great dynamo which generates the forces that control the system, is contained in the cavity of the cranium, and, to perform the varied tasks imposed upon it, must be bountifully supplied with arterial blood, which must circulate freely and return quickly to the heart through an unobstructed channel. The blood leaves the arch of the aorta through the innominate artery, and ascends obliquely to the upper border of the right sterno-clavicular articulation, where it divides into the right common carotid and right subclavian arteries, the latter supplying the arm, while the common carotid passes obliquely upward from behind the sterno-clavicular articulation to a level with the upper border of the thyroid cartilage, opposite the third cervical vertebra, where it divides into the external and internal carotid, whose branches, together with the vertebral artery, supply the brain. As these arteries and the corresponding veins must pass through a network of muscles to reach their destination, the great mystery is that we are ever free from headache caused by an obstruction to their free flow.

SYMPTOMS.

The symptoms which usually precede brain fever are pain in the head, redness of the eyes, a violent flushing of the face, disturbed sleep or a total want of it, great dryness of the skin, costiveness, retention of the urine, a small dropping of blood from the nose, singing in the ears, and extreme sensibility of the nervous system. The pulse is often weak, irregular, and trembling, but sometimes is hard and contracted; a remarkable quickness of hearing is a common

symptom of this disease, as is also a great throbbing of the arteries in the neck and temples; a constant trembling, suppression of the urine, a total want of sleep, and a grinding of the teeth, which may be considered as a kind of convulsion.

CAUSE.

Brain fever, usually fatal when treated by the old methods, can be traced directly to a contraction of the muscles of the neck, obstructing the returning blood. With the heart still pumping the blood into the brain and the escape cut off, do you wonder at brain fever, or can you doubt for an instant that to remove the obstruction, allowing the pent-up venous blood to escape down its proper channel, would cure the disease?

We have yet to find a case of brain fever that, if taken in any reasonable time, can not be instantly relieved, and in a comparatively short time cured, by our Brain Fever Treatment. We trust that not only every person who reads these pages, but the medical fraternity in particular, will try this method, as, if it is generally adopted, it will save hundreds of lives annually.

TREATMENT.

1. Place one hand under the chin, the other under the back of the head, and pull gently, rotating the head as far as possible from side to side, the object being to stretch all the muscles of the neck.

2. Pull gently on the head (being very careful not to rotate it) until sufficient strength is used to move the body.

3. With the fingers move all the flesh and muscles of the neck and throat, working gently but deep.

4. Raise the arm high above the head (see cut 10) with one hand, with the fingers of the other pressing hard between the spine and scapula, beginning at the upper border of the scapula. Lower the arm with a backward

motion, and repeat, moving the fingers down one inch each time, until the lower angle of the scapula is reached. Treat the other side in a similar manner.

5. Hold the vaso-motor center, one hand on each side of the neck, the fingers almost meeting close to the head (cut 13), and in five minutes your patient will be asleep and out of danger.

In critical cases this treatment may be repeated as often as circumstances seem to require. Once in six hours is usually all that is necessary. The vaso-motor center may be held at any time, and always gives relief.

Of the many cases treated by us, we will mention that of a gentleman of Baxter Springs, Kansas, who was delirious when we reached his bedside, and had been given up by the family physician. After a treatment that lasted not over ten minutes, his wife, bending over the couch, said to him: "Ben, how do you feel?" He replied: "Better, you bet!" turned over, and went to sleep for the first time in days. He improved rapidly, and in two weeks had entirely recovered.

We are perfectly satisfied that brain fever, if treated in time by these never-failing principles, is no more to be dreaded than a bad cold.

TUBERCULOSIS.

(Infectious disease, due to tubercle bacillus within some organ or tissue.)

SYMPTOMS.

Emaciation; anemia; weakness; causeless sweats; tubercle bacillus in the blood.

No cure in Osteopathy.

MILIARY FEVER.

(Infectious disease, with disorder of the sweat glands, and obstruction to their ducts.)

SYMPTOMS.

Fever; profuse sweating; tenderness and sense of oppression at the epigastrium; eruption, consisting of small and reddish maculæ with vesicle in the center, most generally about the neck and trunk.

Not treated by osteopaths.

LEPROSY, OR ELEPHANTIASIS (BLACK).

(A chronic, specific, infectious, hereditary disease, characterized by ulcerous eruptions, tubercles, anesthetic patches, neuritis, and desquamations of dead skin.)

SYMPTOMS.

Reddish violet-colored patches, becoming darker; nodules; fierce expression; sloughing; no pain; temperature usually subnormal; gradual wasting.

Not treated by osteopaths.

HYDROPHOBIA, OR RABIES.

(An acute, specific, infectious disease, communicated by the bite of a rabid animal, due to a specific virus in the saliva, characterized by a great disturbance of the central nervous system, difficulty of swallowing, convulsive dread of water, and spasmodic muscular contractions.)

SYMPTOMS.

Thirst; painful spasms of the larynx when attempting to swallow water; sensitiveness to light, sounds, or draughts;

dyspnea; struggling; gasping; convulsions; foaming and frothing at the mouth.

Not treated by osteopaths.

ANTHRAX, SPLENIC FEVER, OR CHARBON.

(A contagious and malignant febrile disease, characterized by the presence of the bacillus anthracis, and often by carbuncular swellings (malignant pustule); derived from herbivorous animals; peculiar to butchers, wool-sorters and workers in hides.)

SYMPTOMS.

Pimple appears at the site of inoculation; skin red; papule becomes vesicular and pustular, with subsequent gangrene; fever; depression; and septic pyemia.

Not treated by osteopaths.

MILK-SICKNESS (ALSO CALLED SWAMP-SICKNESS, THE TREMBLES).

(Acute, infectious, malignant fever of cattle, and affecting man by transmittance through milk and meat.)

SYMPTOMS.

Muscular tremor; soapy, yellowish vomit; fetid breath; constipation, attended with violent retching and a burning in the stomach; often terminating fatally on the third day.

Not treated by osteopaths.

TRICHINIASIS, OR TRICHINISIS (THE FLESH-WORM DISEASE).

(Acute infectious disease, caused by a small round worm from meat of diseased swine.)

SYMPTOMS.

Gastric and intestinal irritation; pain and stiffness of voluntary muscles; edema of the eyelids, face, and feet;

profuse perspiration; anorexia; tongue coated; breath foul; nausea; diarrhea; slight fever.

Not treated by osteopaths.

GLANDERS.

(Infectious disease, peculiar to horses, and transmitted to man through an abrasion of the skin.)

SYMPTOMS.

Site of inoculation becomes inflamed; elevation of temperature; headache; eruption vesicular, then pustular; nodules beneath the skin, which soften and rupture, discharging a greenish pus.

Not treated by osteopaths.

ACTINOMYCOSIS, OR LUMP-JAW.

(Specific, infectious disease of cattle, occasionally in man; due to "ray-fungus.")

SYMPTOMS.

Usually attacks the lower jaw, but sometimes on the tongue, in lungs, or intestines; tumor, swelling, and suppuration; pyemic symptoms.

Not treated by osteopaths.

FOOT-AND-MOUTH DISEASE (ECZEMA EPIZOÖTICA).

(A specific, contagious disease, communicated to man from domestic animals, in which ulcers are formed about the mouth and hoofs.

SYMPTOMS.

Fever; soreness of mouth; vesicles which burst and leave shallow ulcers; tongue swells; eating painful.

Not treated by osteopaths.

Constitutional Diseases.

SYPHILIS.

(A contagious constitutional disease. May be acquired or congenital.)

SYMPTOMS.

Acquired syphilis is characterized (1) by the initial lesion, or chancre, which appears usually in a week after contagion; (2) by a period of incubation generally lasting six weeks, but varying from one to three months; (3) febile symptoms, many forms of skin eruptions, ulcers on the tonsils; adenitis, wart-like growths about the anus, iritis, retinitis, and loss of hair; (4) after an interval of from several months to twenty years by the so-called "tertiary phenomena."

TREATMENT.

Syphilitic conditions are not treated successfully by osteopaths, except in the chronic form, when a thorough General Treatment (page 306), which softens and stretches the muscles, frees the circulation, and equalizes the forces of the body, is often very beneficial.

GENERAL DEBILITY.

While we cannot roll back the vail of years, we propose to prove to our friends in advanced life that we can at least make them feel quite young again. In old age the muscles, arteries, and, in fact, all the organs, are prone to ossify. The

muscles become contracted and stiff, thus interfering with the free flow of blood, and limy deposits form around the joints. It is but reasonable and natural that our General Treatment (page 306), which stretches and frees all the muscles, ligaments, and joints, causing the blood to run faster and the heart to beat stronger, would be especialy applicable. It has been tested and proven times without number, and we feel that we can safely assert without fear of contradiction that our General Treatment with the aged and infirm never has failed to give gratifying results, and never will.

We will mention in this connection the case of a gentleman eighty-one years of age, of Miami, Indian Territory, in whom the machinery of life had nearly run down. His sons, hearing of some of our rather remarkable cures, brought the old man in, much against his will, for treatment. He was carried into our office and laid upon the table. After an examination, we pronounced the case hopeless, as we did not think there was enough vitality left to respond to the treatment and once more resume control of the machinery of life. However, we administered a General Treatment, and were as much surprised as his sons to see the old gentleman get up and walk down stairs unassisted. In three weeks he was restored to health and threw away the cane he had carried for thirty years. Being a man of undoubted veracity and well known throughout the Indian Territory and southern Kansas, his seemingly miraculous restoration to health through this method gave us quite an enviable reputation through that section of the country. Sometimes, when weary and annoyed by many questions put to him regarding our method, he would tell the people that he was no walking advertisement.

That the young as well as the old can be benefited by this General Treatment has been proved in numerous instances,

after all other known methods have failed. One case we will mention is that of a child eighteen months old. Her cold, emaciated limbs, and the eruptions on her face and neck and in the ears, told too plainly to be misunderstood the story of contracted muscles and of stagnant blood. Although the little sufferer was so low that her case seemed almost hopeless, she was cured in four treatments, given every second day, and is now a healthy child.

ACUTE ARTICULAR RHEUMATISM, OR RHEUMATIC FEVER.

(Acute rheumatism. Specific inflammation of the joints and their contiguous structures, with pain and swelling.)

SYMPTOMS.

Acute rheumatism is usually ushered in with fever and inflammation about one or more of the larger joints, the shoulder, elbow, knee, or ankle usually being first affected. Exposed joints appear to be more prone to attacks than those that are covered, the larger more frequently than the smaller, and the small joints of the hand more frequently than those of the feet. The affected joints are swollen, surrounded by a rose-colored blush, and acutely painful; the pain has many degrees of intensity, generally abates somewhat in the day, but is aggravated at night, and in all cases is increased by pressure, so that the touch of the nurse or weight of the bedclothes can scarcely be borne. Also some or all of the following symptoms: Loss of appetite; chilliness; urine scanty, high-colored, and abnormally acid; copious, acid, and pungent perspiration.

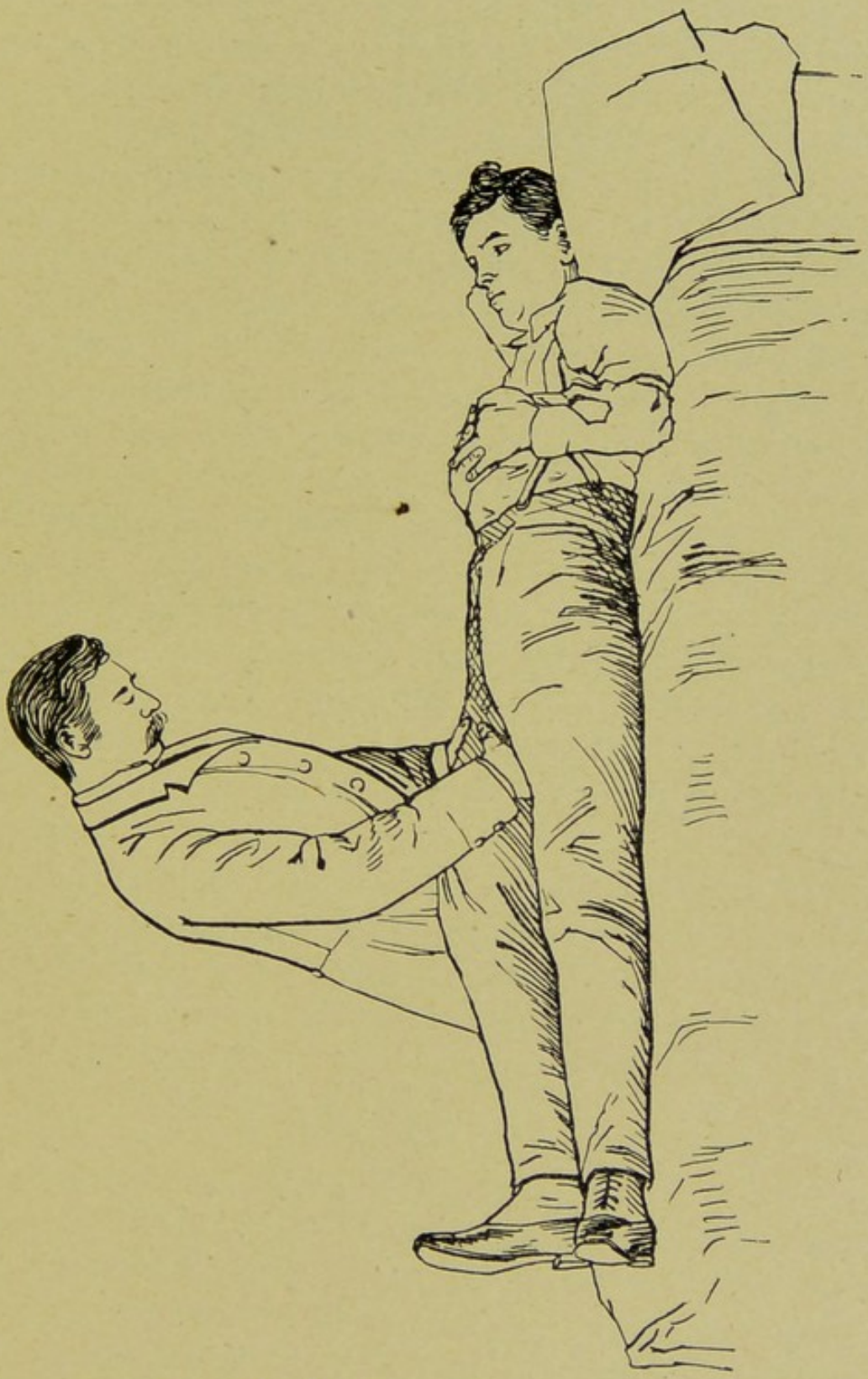
CAUSE.

Rheumatism is caused in the lower extremity by a contraction of the muscles of the thigh, obstructing either the

femoral, iliac, or long saphenous veins; in the upper extremity by contraction of the muscles of the shoulder, obstructing either the brachial, axillary, or subclavian veins. As the waters of a river, if obstructed between high, strong banks, may not cause any particular trouble at that point, but will back up, flooding the lower country, so this river of blood, while causing no great inconvenience at the obstruction, backs up, distending the smaller veins and capillaries. The heart, still pumping, finally feels the pressure, and we have rheumatism of the heart, while the stagnant blood soon becomes feverish, and we have inflammatory rheumatism, first below and finally above the obstruction. Laying aside all prejudice and skepticism, and looking at the matter from an unbiased and common-sense standpoint, would it not be as sensible to throw medicine into the river to remove the cause of a flood as to put it into the stomach to free the obstructed vein?

If we may be permitted to once more refer to the anatomy, we will turn to the stomach and endeavor to follow a dose of medicine on its journey from the stomach to its destination at the femoral or saphenous vein, first asserting, however, that the same quantity of the same medicine never has the same effect twice on the same individual, from the fact that the stomach is never found twice in exactly the same condition, containing as it does different foods in different stages of digestion. Thus your doctor must begin by guessing what to give and how much to give, and continue guessing until you accidentally stretch the contracted muscle and commence to recover, and then he guesses that his medicine did the work. There will be no guesswork, however, in tracing the medicine from the stomach and asserting what portion (if any) reaches the affected part. Passing

from the mouth through the esophagus, it first reaches the cardiac end of the stomach. While in the mouth the gastric juice commences to flow, and is greatly increased by the time the drug gets to the stomach. Being kept in motion in a large quantity of liquid, in from fifteen to thirty minutes it reaches the pyloric orifice of the stomach and is emptied into the duodenum, where it is mixed with the pancreatic juice from the pancreas and the bile from the liver. As these juices, together with the gastric juice of the stomach, are capable of changing the entire character of almost any substance on which they are allowed to act, it is not only possible, but probable, that they also change the character of the drug to a greater or less extent, thus adding to the system of guessing indulged in by the medical practitioner. The duodenum and upper portion of the small intestine are lined with a velvety substance, termed *villi*, which, immediately upon the entrance of any substance into the intestine, passes all particles of richness through the walls of the intestine into the thoracic duct, permitting all refuse matter to pass on to the rectum. It is possible that here a goodly portion of the drug is refused by the villi, and is passed with the feces; a portion, however, has reached the thoracic duct. The thoracic duct conveys the great mass of lymph and chyle into the blood. It varies in length from fifteen to eighteen inches in the adult, and extends from the second lumbar vertebra to the root of the neck; it commences in the abdomen by a triangular dilatation, the receptaculum chyli, which is situated upon the front of the body of the second lumbar vertebra, to the right side and behind the aorta; it ascends into the thorax through the aortic opening in the diaphragm, opposite the last dorsal vertebra; it inclines toward the left side and ascends behind the arch of the aorta to the left side of the esophagus, and behind the first portion of the left subclavian artery to the upper orifice



CUT 29.—Rotating Flesh on Leg.

of the thorax, opposite the seventh cervical vertebra; it now curves outward and then downward over the subclavian artery, and terminates in the left subclavian vein.

We will now follow what remains of our drug through the thoracic duct and into the subclavian vein in the neck, opposite the seventh cervical vertebra. It next passes into the innominate artery, which empties into the superior vena cava, through which it reaches the heart, and is immediately pumped through the pulmonary artery into the lungs, from which it is conveyed through the pulmonary veins back to the heart, from where it is distributed equally to all parts of the system. How much (if any) ever reaches the contracted muscle it will indeed be difficult to determine.

In discussing this subject we are reminded of the story of an Irishman with rheumatism; his physician wrote him a prescription and instructed him to rub it on. The Irishman, in his ignorance, rubbed his leg with the paper, and he was immediately relieved; thus demonstrating that there is more virtue in the *rubbing* advised than in the liniments themselves.

Now, believing that our readers will understand our reasons for taking the position that man is a machine and should be treated accordingly, especially in rheumatic troubles, we will return to the treatment of this disease when located in the lower extremities.

TREATMENT.

Lower Extremity.

1. Place the patient on the back; grasping the ankle firmly with the right hand (should the right limb be affected), place the left on the knee and flex the limb slowly and gently as far as possible without too much suffering, rotating it gently from right to left; extend the leg, and it will be found

that it can be returned to its former position with apparent ease; bend it now another inch and straighten.

2. Place one hand on each side of the thigh, close to the body, and with a firm pressure move all the muscles from right to left and from left to right (cut 29) the entire length of the limb, very gently at first, but stronger as the patient becomes used to the treatment.

3. Grasping the foot, pull slowly, at the same time rotating the limb, using as much strength as the patient can stand.

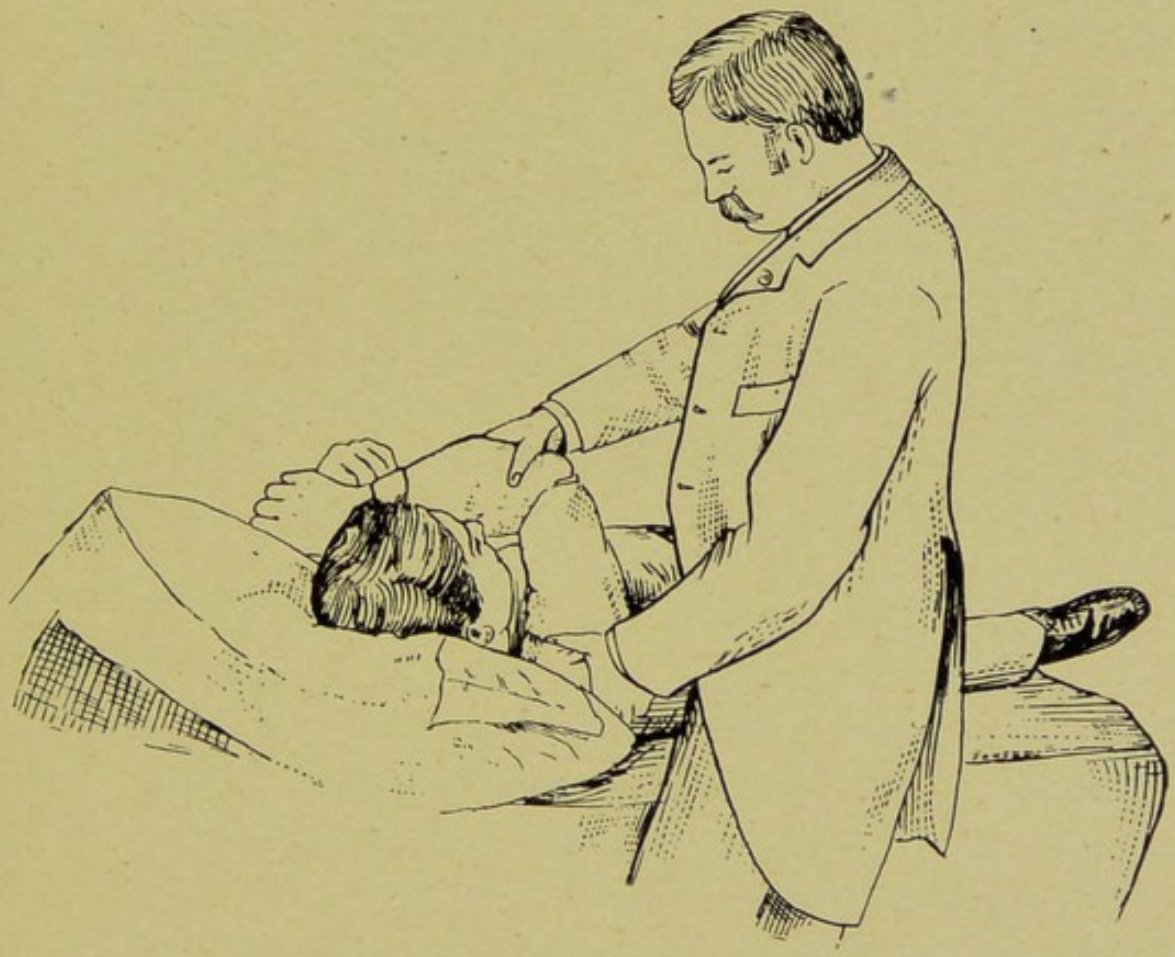
4. Place the patient on the side; beginning at the first lumbar vertebra, with the fingers close to the spine, move the muscles upward and outward down as low as the lower border of the sacrum.

This treatment should be given every other day, and, if care is taken, it need not be very painful, and will certainly cure the most acute case of inflammatory rheumatism in from two to six weeks.

Of the numerous cases cured by us, we will mention that of a gentleman at Webb City, Missouri, who had been given up by the medical doctors and in whose case the rheumatism not only extended the entire length of the spinal column and right limb, but was felt perceptibly in the heart. Ten days after the first treatment was given he walked without his crutches, and in six weeks resumed his usual vocation, entirely cured.

Another gentleman of the same city, whose right limb was double its natural size from this disease, was cured in five days.

Founded as it is upon common sense and scientific principles, this system of treatment, if properly administered, is absolutely infallible.



CUT 30.—Rheumatism in Arm.

Upper Extremity.

1. Raise the arm as high and strongly as possible, but slowly, above the head. With the thumb of the disengaged hand (beginning at the upper border of the scapula) press upward on the muscles between the scapula and spine, while raising the arm (see cut 10). Lower the arm with a backward motion, move the thumb down an inch, and again raise the arm, repeating until the lower border of the scapula is reached.

2. Place one hand on the shoulder, pushing the muscles toward its point; with the other grasp the patient's elbow, and, while pressing hard with both hands, move the arm forward and upward around the head (cut 30).

3. Grasp the arm with one hand close to the shoulder; with the other hold the arm from turning and move the muscles from right to left and from left to right the entire length of the arm.

4. Stretch the arm, pulling slowly but very strongly.

5. Should the seat of pain be located beneath the trapezius in the upper dorsal region, place two fingers of the right hand beneath the trapezius muscle, just above the clavicle (in case the trouble is in the right shoulder); the right forearm of the patient should rest upon the forearm of the operator, near the bend of the elbow; the left hand of the operator should be placed upon and just below the scapula of the patient, who should be in a sitting position. The patient should be instructed to relax all muscles as much as possible; the operator with his left hand should now throw the scapula as far upward and forward as possible, at the same instant pressing very deep with the fingers of the right hand under the trapezius muscle and over the clavicle; also, with the right elbow, bring the patient's arm forward, upward, and outward with a circular motion.

This treatment not only cures any form of rheumatism, but paralysis and various forms of blood disorders in that member.

Entire System.

When inflammatory rheumatism extends over the entire system, the spinal column as well as the extremities should be treated.

1. Place the patient on the side; using the arm as a lever (see cut 7), beginning with the fingers at the base of the neck, close to the spine, move the muscles upward and outward the entire length of the spinal column.

2. Place one hand under the chin, the other under the back of the head; have an assistant take the feet, and pull steadily as hard as the patient can stand.

It is indeed surprising how quickly a patient responds to this treatment.

SUBACUTE ARTICULAR RHEUMATISM.

(Milder in degree than the ordinary form, but more persistent; one or more joints may be affected.)

TREATMENT.

Same as the acute form (page 289).

CHRONIC ARTICULAR RHEUMATISM.

(Pain or stiffness in one or more joints, or in their contiguous tissues; most frequently in the shoulder or knee.)

SYMPTOMS.

This sometimes follows the acute form, at other times coming on quite independently of any previous attack; in time the affected limbs lose their power of motion, and lameness results, the hip- and knee-joints being most often affected; sometimes there is emaciation of the muscles;

sometimes permanent contraction of a limb, or bony stiffness of the joints; pain more or less constant; worse in damp weather or approaching storm; not much tenderness; rarely any swelling or elevation of temperature; joints frequently crack or grate on motion. This form of the disease is the result of the uncured acute form. It may be limited to one part of the body, or extend to several, and may be fixed or shifting.

TREATMENT.

See Acute Articular Rheumatism (page 289).

Particular care should be taken to knead and manipulate the muscles deeply and thoroughly around any and all joints affected. The operator should be very particular in flexing said joints as much as possible without giving pain, flexing them a little further at each successive treatment.

Treatment will occupy fifteen or twenty minutes, according to the number of joints involved, and should be given every other day.

ACUTE MUSCULAR RHEUMATISM.

(Rheumatism involving the muscles.)

SYMPTOMS.

Onset sudden, or first noticed on attempting to rise in the morning; catching, tearing, or burning pain on attempting to bend or move; no joints affected.

TREATMENT.

Treat the muscles as in Acute Articular Rheumatism (page 289), being very particular to knead and manipulate very thoroughly.

Treatment should be given each day. Immediate relief will follow the first treatment, and a speedy cure may be expected.

CHRONIC MUSCULAR RHEUMATISM.

(Continuation of the acute form.)

SYMPTOMS.

They are very similar to those of Chronic Articular Rheumatism, except that the muscles, and not the joints, are involved.

TREATMENT.

See Acute Articular Rheumatism (page 289).

Very thorough manipulation of the muscles in the affected parts, together with flexion and extension of the extremities, should be given. Treatment should be given every other day.

TORTICOLLIS, WRYNECK, OR STIFF NECK.

(A form of muscular rheumatism involving the cervical muscles, which draws the head toward the affected side.)

SYMPTOMS.

Head drawn and fixed to one side; the sterno-cleido mastoid muscle is especially rigid and tender on pinching; may also involve the trapezius and splenius.

TREATMENT.

1. Place the patient on the side; beginning at the occipital bone, move the muscles upward and outward, gently but very deep, as low as the last dorsal vertebra. Treat the opposite side in a similar manner.

2. Manipulate the contracted muscle very thoroughly and deep.

3. Place one hand under the chin, the other under the occipital, giving gentle extension and rotation, endeavor-

ing to stretch as much as possible the muscles at fault. This treatment is very beneficial even in chronic cases.

Treatment should be given every other day; and will occupy about ten minutes.

SCIATICA, OR SCIATIC RHEUMATISM.

(Neuralgia of the hip and thigh.)

Sciatic rheumatism may be caused either by a pressure on the nerve itself in or near the thigh, or in the spine at the origin of the nerves that form the sacral plexus, of which the great sciatic nerve is a continuation.

TREATMENT.

1. Flex the leg (with one hand grasping the ankle, the other resting on the knee) as far as possible toward the chest, slowly but strongly.

2. Extend the leg, turning the knee in, the foot out.

3. With one hand on each side of the thigh, move all the muscles from right to left and *vice versa*, very deep (cut 29).

4. Place the patient on the side; beginning at the last dorsal vertebra, with the fingers close to the spine, move the muscles upward and outward from the spine to the end of the sacrum.

This treatment will cure the most stubborn cases of sciatic rheumatism in from six weeks to three months.

LUMBAGO.

(Rheumatic pain in the loins; neuralgia affecting the small of the back.)

Lumbago, which may be traced to many different causes, can be invariably cured by our method; acute cases almost

instantly, and chronic cases of many years' standing by a continuation of the treatment.

TREATMENT.

1. Place the patient on the side; using the limb as a lever (cut 31), with the fingers close to the spine, commencing a little above the last lumbar vertebra, move the muscles up and out from the spine with each upward motion of the limb.

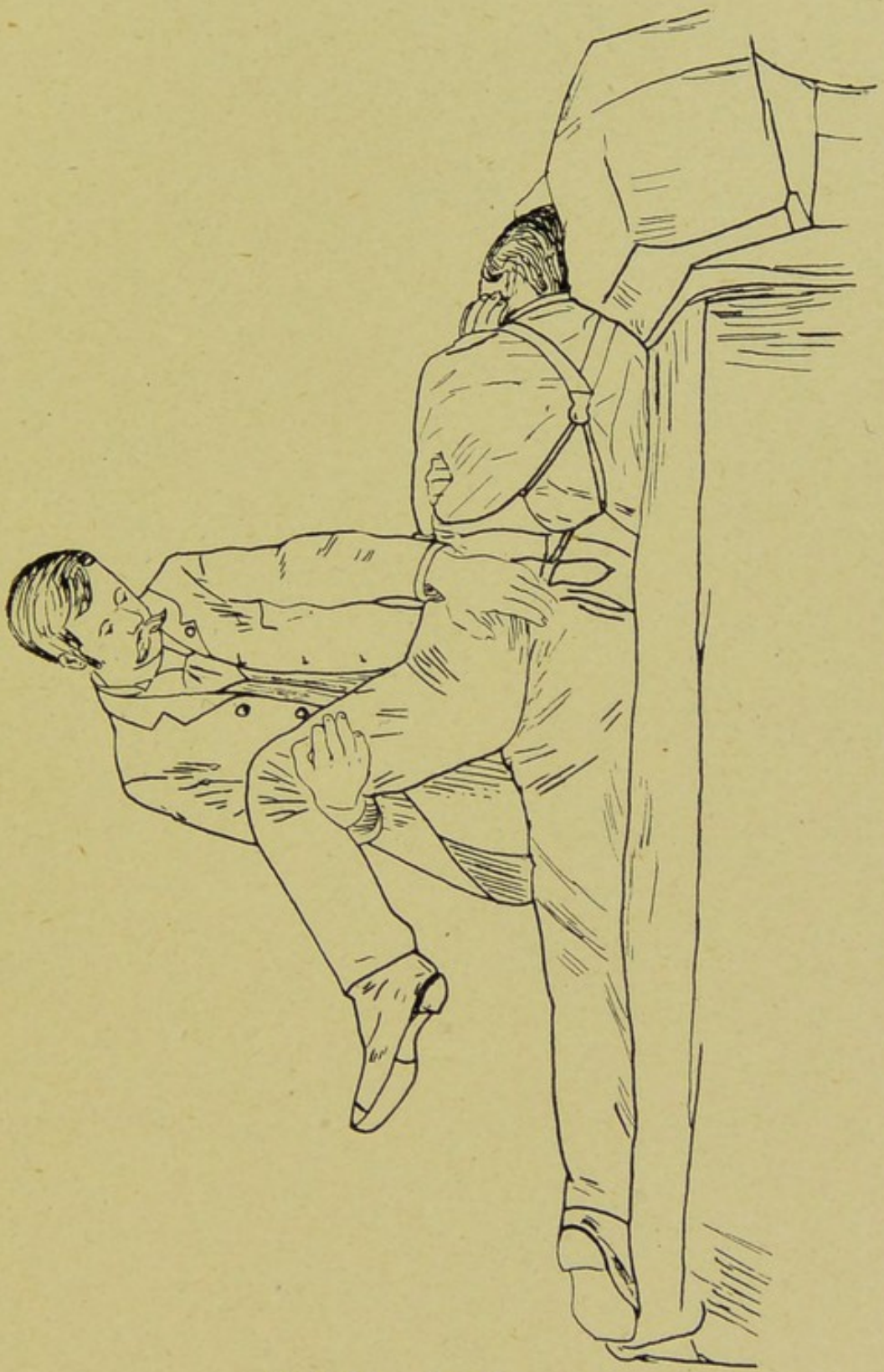
2. Extend the limb, move the hands down one inch, and repeat until the lower part of the sacrum is reached.

3. Place the patient on the back; grasping the ankle, flex one limb after the other as far as possible toward the chest, thus stretching the muscles of the back (cut 32).

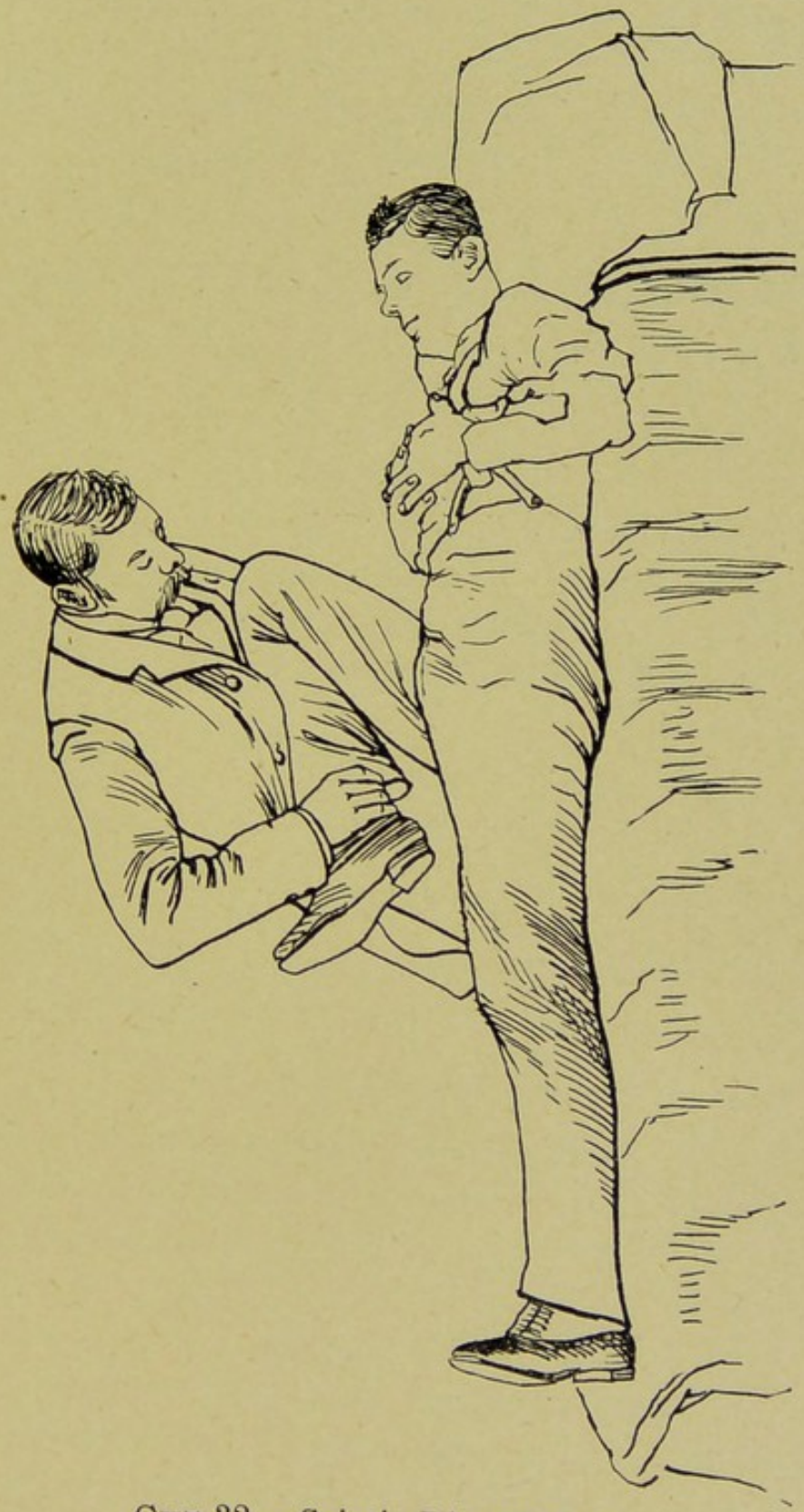
4. Place the patient on the face; with the thumbs on each side of the spine, beginning at the second lumbar vertebra, press rather hard, moving the muscles upward; move the thumbs down one inch, and repeat until you have reached the second sacral vertebra; being very careful to work thoroughly and deeply on each side of and a little below the last lumbar vertebra, as it is here the trouble is usually found.

Here also is found the seat of **kidney disease** and **female troubles.** It is noticeable in those cases that the patient usually has a **weak back,** and it has been demonstrated beyond the shadow of a doubt that, working on these principles, not only the back, but the accompanying disorders, can be entirely cured.

Of the many cases of lumbago treated by us, we will mention that of a gentleman of Baxter Springs, Kansas. He was assisted into our office, and told how, ten years before, he was afflicted in a similar manner, being bedfast for six months and on crutches two years. We gave him a treat-



Cut 31.—Lumbago.



CUT 32.—Sciatic Rheumatism.

ment, not occupying over two minutes and curing him instantly.

We might also mention the case of a gentleman of Neutral, Kansas, cured by us in two weeks, after having been given up by the medical fraternity.

RHEUMATOID ARTHRITIS, OR RHEUMATIC GOUT.

(Inflammation of the joints, resulting in deformity. May be acute or chronic.)

SYMPTOMS.

Acute stage is similar to Acute Articular Rheumatism, and may extend to fingers and toes. Chronic stage, joints tender and painful, slightly swollen, numbness and tingling; progressive, with occasional remissions. More common in females.

TREATMENT.

See Acute Articular Rheumatism (page 289).

ACUTE GOUT.

(A specific arthritis, characterized by uric acid in the blood, and deposit of sodium urate in the joints.)

SYMPTOMS.

Colicky pains in the stomach and bowels; diarrhea alternating with constipation; urine scanty and heavily loaded; usually attacks the great toe, which becomes hot, red, and swollen.

TREATMENT.

1. Place the patient on the side; beginning at the upper cervicals, move the muscles upward and outward, thoroughly and deep, the entire length of the spine, being very particular in the region of the splanchnic nerves and in

the lumbar region. Treat the opposite side in a similar manner.

2. Place the patient on the face; the thumbs of the operator on each side of the spinal column at the second lumbar vertebra, an assistant raises the limbs, (1) drawing them toward the operator on a level with the table, then (2) up as far as the patient can stand, then (3) carrying them back until they are parallel with the table, the operator pressing hard with his thumbs upon the second lumbar; (4) the limbs should now be lowered, the thumbs placed upon the third lumbar, and the operation repeated, until the fourth lumbar has been treated in a similar manner. This treatment should only be given in case of **diarrhea.**

In case of **constipation,** knead and manipulate the bowels. See Constipation (page 150).

3. Flex the affected limb, slowly, but strongly, giving strong abduction of the knee as the limb is extended; manipulate the muscles the entire length of the limb, deeply and thoroughly, being very particular in the region of the inflamed and swollen joint.

4. Place the hand under the patient's chin; draw the head backward, rotating it from side to side; manipulate thoroughly all the muscles in the front and sides of the neck. This treatment, which frees and stimulates the pneumogastric nerve, together with strong treatment over the splanchnic nerves in the spine, tends to equalize the action of the alimentary canal.

Treatment will occupy about fifteen minutes, and should be given each day, until recovery.

CHRONIC GOUT.

(Results from repeated attacks of the acute form.)

SYMPTOMS.

Deformity of affected joints, about which are deposits of sodium urate.

TREATMENT.

See Acute Gout (page 303).

Treatment should be given every other day.

SCROFULA (CALLED ALSO KING'S EVIL).

(A morbid constitutional condition, having tubercle bacillus, associated with inflammation, caseation, and suppuration of the lymph-glands; generally hereditary; predisposing the system to development of glandular tumors degenerating into ulcers; also to mesenteric and pulmonary consumption.)

SYMPTOMS.

Similar to Lymphadenoma, and in addition the glands and surrounding connective tissues are inflamed, hot and tender to the touch, and adherent to the skin; cervical glands usually first involved.

TREATMENT.

1. Manipulate gently, but very thoroughly and deep, the muscles and glands in the affected region.

2. See General Treatment (page 306), using such parts thereof, to free and stimulate the circulation through the entire system, as conditions would indicate.

Treatment should be given every other day, and occupy fifteen or twenty minutes.

MYXEDEMA.

(A cretinoid disease, due to affection of the thyroid gland, with mucus in the connective tissue; chiefly affecting women, rarely men or children.)

SYMPTOMS.

Thyroid gland diminishes; swelling of the face, arms, and legs; memory enfeebled; heart enfeebled; movements clumsy; appetite and nutrition impaired.

TREATMENT.

This disease can be greatly benefited by a thorough General Treatment (see below), occupying fifteen to twenty minutes, every other day, to equalize the circulation and stimulate the digestive organs.

GENERAL TREATMENT.

1. Place the patient on the side; beginning at the upper cervicals, move the muscles upward and outward, gently but very deep, the entire length of the spinal column, being very particular in all regions which appear tender to the touch, have an abnormal temperature, or where the muscles seem to be in a knotty, cord-like, or contracted condition. Treat the opposite side in a similar manner.

2. With the patient on the back, place the hand lightly over the following organs, vibrating (pages 36 and 67) each two minutes, respectively: lungs, stomach, liver, pancreas, and kidneys.

3. Flex the lower limbs, one at a time, against the abdomen, abducting the knee, and adducting the foot, strongly as the limb is extended with a light jerk.

4. Grasping the limb around the thigh with both hands (cut 29), move the muscles very deeply from side to

side the entire length of the limb. Treat the opposite limb in a similar manner.

5. Place one hand upon patient's shoulder, pressing the muscles down toward the point of the acromion process; with the disengaged hand grasp the patient's elbow, rotating the arm around the head (cut 30).

6. Holding the arm firmly with one hand, with the other rotate the muscles very deep the entire length of the arm; also grasp the hand, placing the disengaged hand under the axilla, and give strong extension. Treat the opposite arm in a similar manner.

7. Place one hand under the chin, the other under the occipital, and give gentle but strong extension (cut 8).

8. Place one hand under the chin, drawing the head backward and to the side; with the disengaged hand manipulate the muscles which are thrown upon a strain. Treat the opposite side in a similar manner. Also manipulate, thoroughly and deep, the muscles in front of the neck.

9. Place the patient upon a stool; the operator placing the thumbs upon the angles of the second ribs, an assistant raising the arms slowly but strongly above the head as the patient inhales; press hard with the thumbs as the arms are lowered with a backward motion, patient relaxing all muscles and permitting elbows to bend; move the thumbs down to the next lower ribs; raise the arms as before; and repeat, until the fifth pair of ribs have been treated in a similar manner.

10. In all cases of fever hold the vaso-motor center (cut 13) (also see page 253).

11. In cases of diarrhea place the patient face downward; while pressing hard upon the first lumbar vertebra, raise the limbs slowly but strongly as far as patient can

stand; press also upon the second, third, and fourth lumbar, raising the limbs in a similar manner. In severe cases of diarrhea it is also well to vibrate (pages 36 and 67) the bowels two minutes.

12. In cases of constipation No. 11 should be omitted, and the Constipation Treatment (page 150) be substituted.

HEMOPHILIA (SPONTANEOUS BLEEDING).

(A hereditary morbid condition, characterized by tendency to excessive bleeding from the slightest wounds.)

SYMPTOMS.

Slight scratches, wounds, or extraction of teeth are followed by severe hemorrhages.

Not treated by osteopaths.

SIMPLE GOITER.

(Enlargement of the thyroid gland.)

EXPLANATORY.

The thyroid gland bears much resemblance in structure to other glandular organs, and was formerly classified together with the thymus, suprarenal capsules, and spleen, under the head of ductless glands, since, when fully developed, it has no excretory duct. The thyroid varies in weight from one to two ounces. It is larger in the female than in the male, and slightly increases in size during menstruation. It is situated at the upper part of the trachea, and consists of two lateral lobes, placed one on each side of that tube and connected by a narrow transverse portion, the isthmus. The arteries supplying the thyroid are the superior and inferior thyroid, and sometimes a branch from the innominate artery or arch of the aorta. The arteries are remarkable for their large size and frequent anastomosis;

the veins form a plexus on the surface of the gland and on the front of the trachea, from which rise the superior, middle, and inferior thyroid veins. The two former terminate in the internal jugular, the latter in the innominate vein.

CAUSE.

The thyroid gland is subject to enlargement, which is called goiter. For the relief of these growths various operations have been resorted to, such as the injection of tincture of iodine or perchloride of iron, ligature of the thymus, and extirpation of a part or the whole of the thyroid gland. The thyroid gland having an unusually large blood-supply, it is but reasonable to suppose that an obstruction to its veins would necessitate an enlargement of the gland, or goiter. It is equally reasonable that if the obstruction is removed, the goiter will soon be taken up by absorption and disappear. Acting on these principles, we have cured many goiters. It will be observed that the clavicle is not nearly as prominent in people troubled with goiter as in those not afflicted with this disease. The contracting muscles and depressed clavicle, which are obstructing the escape of the blood from the thyroid gland, cause goiter. Raising the clavicle and stretching these muscles cures goiter, thus proving our theory to be correct.

TREATMENT.

1. Stand behind the patient, and, extending the left arm around the neck, place the left thumb under the right clavicle at about its middle; grasp the patient's right wrist with the disengaged hand, raise the arm slowly above the head, and lower with a backward motion, at the same time springing the clavicle up with the thumb of the left hand; raise the left clavicle in like manner (cut 41).

2. Place the patient on the back; with one hand under the chin, the other under the back of the head, pull gently, rotating the head in any direction that will best stretch the muscles in the front and sides of the neck.

3. Place the fingers below the goiter, pulling it upward and kneading it gently.

This method will usually cure in from two to six weeks any goiter on which iodine has not been freely used. Treatment should be given every other day, and will not occupy over five minutes' time.

FLESHY TUMORS.

Fleshy tumors, like goiter, are caused by an obstruction to the veins draining any given part, and are easily cured by stretching and moving all the flesh and muscles in the immediate vicinity and kneading and moving the tumor in all directions.

SCORBUTUS, OR SCURVY.

(A disease characterized by tendency to hemorrhage of the membranes, by extravasation of the blood in livid spots under the skin, especially by spongy, swollen, and bleeding gums, but may be also of the bowels; and by great prostration, languor, and occasional rheumatic pains.)

SYMPTOMS.

Skin dry and rough, purplish; breath fetid; pulse feeble and rapid; shortness of breath.

TREATMENT.

Discontinue the use of salted meats, and all highly seasoned food. Eat as large quantities of fresh fruit as possible, and let the diet consist mainly of vegetables, pota-

toes and onions being one of the best preventives and curatives for this malady.

The osteopath, being taught to view man as a machine, always seeks to remove the cause. In this instance, the cause being an improper diet, correcting the diet will cure the disease.

PURPURA, LAND SCURVY, THE PURPLES, OR (CANADIAN) BLACKLEG.

SYMPTOMS.

Sometimes begins with a chill, and pain in the back and limbs; purple spots usually occur in successive crops, first red, then purple, brown, and yellow; no fever.

TREATMENT.

For treatment, see Scurvy (page 310).

Take all needed rest, but exercise according to strength, and breathe fresh air.

Diseases of the Nervous System.

NEURALGIA.

(Pain in the course of a nerve.)

SYMPTOMS.

Burning or shooting pain in the course of the affected nerve; parts may be anesthetic, but usually there is hyperesthesia of the skin. Prolonged neuralgia may produce disturbance of nutrition.

Neuralgia may be due to constitutional causes, such as gout or rheumatism; or some form of toxemia, as malaria; or condition of the blood, as anemia.

TREATMENT.

Neuralgia of any part should be treated in a similar manner to Acute Articular Rheumatism (page 289) of that part. If in the face, thorough manipulation of the face and neck should be given; if in a limb, thorough manipulation, extension, and flexion of that part should be applied.

It is often advisable in neuralgia to give a thorough General Treatment (page 306).

This disease is sometimes cured in one or two treatments, in other instances baffling the skill of the most experienced operator.

Treatment should be given each day.

Cut 33.—Headache.

TIC-DOULOUREUX.

(A form of neuralgia involving the trigeminus nerve, and causing muscular twitching of the face.)

TREATMENT.

1. Place the hand under the chin, the other under the occipital, and give thorough extension of the neck.

2. Manipulate all muscles of the neck very thoroughly, working as far as possible with the fingers under the inferior maxillary.

3. Place the finger-tips over the Gasserian ganglion (cut 49), and vibrate (pages 36 and 67) one minute.

Treatment will occupy about ten minutes, and should be given every day.

HEADACHE.

(Pain in the head.)

SYMPTOMS AND CAUSES.

Gastric or dyspeptic headaches are often occipital, sometimes frontal, and if accompanied by constipation, are diffuse and frontal. Uterine and ovarian headaches are occipital and vertical. Nervous headaches are seated on the top of the head.

If pulsating and throbbing, indicates vaso-motor disturbances; squeezing and pressing, nervous exhaustion or affection; sharp and boring, hysterical, neurotic, or epileptic; dull and heavy, toxic or dyspeptic; hot and burning, rheumatic or anemic.

Headache, not caused by fevers, the stomach, or the uterus, can be almost instantly cured by stretching the neck and a pressure on the nerves at the base of the occipital bone.

TREATMENT.

1. Place the right hand on the back of the patient's neck, the thumb on one side and the fingers on the other, close to the head; place the left hand on the forehead, tipping the head backward gently, lifting quite strongly with the right arm, while rotating the head gently from side to side (see cut 34).

2. Standing in front of the patient and tilting the head backward, gently hold the vaso-motor center (cut 35).

3. Place one hand on the forehead, the other upon the back of the head, and press for several moments, hard.

4. Standing behind the patient, with one hand on each side of the forehead, make five or six quick strokes.

5. Place one finger on each temple, and, while pressing, gently move the fingers from right to left with a circular motion.

6. With the right hand raise patient's right arm high above the head, with the thumb of the left hand between the spine and the scapula, beginning at its upper angle, moving the muscles upward with a strong pressure at the same instant.

This treatment will not occupy over ten minutes. First, second, and third will cure any ordinary headache, and the entire treatment will cure any case of headache, no matter how severe, if not caused by fevers, the stomach, or the uterus, in from five to ten minutes.

Of the scores of cases cured by us, we will mention the case of a lady of Scammon, Kansas, who would have an attack of nervous headache once each week, lasting from two to four days; she suffered intense pain, the muscles contracting until they drew the head backward upon the neck. At these times electricity, hypodermic injections, and even chloroform, had failed to give relief. Being anxious

CUT 34.—HEADACHE.

CUT 35.—HEADACHE—HOLDING VASO MOTOR.

to put our method to the severest test, we undertook her case, and were even more successful than we had dared to hope. In ten minutes she was sleeping quietly, apparently free from pain. In the morning a second light treatment was given, which gave her complete relief, and the continuation of the treatments for one month effected a permanent cure.

NERVOUS HEADACHE.

TREATMENT.

In addition to our Headache Treatment, place the patient on the face, and with the thumbs, beginning at the neck, press gently the entire length of the dorsal vertebræ, after which, if the patient has retired, hold the vaso-motor center a moment (cut 13), and in a few minutes your patient will be asleep.

SICK HEADACHE.

Sick headache being caused by a reflex action of the pneumogastric and splanchnic nerves, the stomach is at fault; we must first reach that organ through the splanchnic nerves.

TREATMENT.

1. Place the patient on the back; reaching over as in cut 21, with the fingers pressing hard on each side of the spine, beginning between the lower angle of the scapula and ending as low as the last dorsal vertebra, lift the patient gently with your fingers; then, moving down the breadth of the hands, repeat the application, thus desensitizing the splanchnic nerves.

2. Press gently at first, then gradually harder, over the pit of the stomach.

3. Give our regular Headache Treatment.

It will take from ten to fifteen minutes to give this treat-

ment, at which time the patient will be improving, although it may be some time before the pain entirely abates.

A continuation of this treatment every second day will cure the most aggravated cases of chronic sick headache.

MIGRAINE, MEGRIM, OR SUN-PAIN.

(Paroxysmal neurosis, with unilateral headache.)

SYMPTOMS.

Nausea; vomiting; derangement of vision and sensation; tingling and numbness. More common in females.

TREATMENT.

1. Place the patient upon a chair; the operator, standing behind, places the right hand upon top of patient's head, and the thumb of the left hand close to the spine of the seventh cervical vertebra on the right side; bend the head forward as far as possible, rotating it gently, but as far as possible to the left; press hard with the thumb, endeavoring to push the muscles as far as possible from the spine, as the head is returned, by reversing the rotation, to its normal position (cut 33); move the thumb up to the next cervical, rotate the head as before; and repeat, until the occipital is reached. Treat the opposite side of the neck in a similar manner.

2. Place the thumbs upon each side of the first dorsal vertebra, the fingers resting upon the patient's shoulders, and move the muscles upward and outward with the thumbs as low as the fourth dorsal vertebra.

3. Place the patient on the back; with one hand under the chin, the other under the occipital, give gentle extension and rotation of the neck.

4. Place the finger-tips over the Gasserian ganglion (cut 49), and vibrate (pages 36 and 67) one minute.

5. Place the hands on the sides of the neck, fingers almost meeting over the upper cervicals; tip the head backward, pressing gently with the fingers three or four minutes.

Treatment will occupy about ten minutes, and should be given each day.

SINGULTUS, OR HICCUP (HICCOUGH).

(A short, sharp clicking or catching sound, due to sudden arrest of breathing, by a momentary spasmodic contraction of the diaphragm and a simultaneous contraction of the glottis.)

EXPLANATORY.

The diaphragm is the principal muscle of inspiration, placed obliquely at the junction of the upper with the middle third of the trunk, and separating the thorax from the abdomen, forming the floor of the former cavity and the roof of the latter. When in a condition of rest, the muscle presents a domed surface with the concave toward the abdomen; when the fibers contract, they become less arched, or nearly straight, and in consequence the level of the chest wall is lowered, the vertical diameter of the chest being proportionally increased, thus permitting the lungs to fill with air; when, at the end of the inspiration, the diaphragm relaxes, the thoracic walls return to their natural position in consequence of their elastic reaction and of the elasticity and weight of the displaced viscera. In all expulsive acts the diaphragm is called into action; thus before sneezing, coughing, laughing, crying, or vomiting a deep inspiration takes place. The phrenic nerve, which may be reached by a pressure in front of the third, fourth, and fifth cervical vertebræ, controls the action of the diaphragm. Thus viewing that great muscle of inspiration as a machine, whose action is

controlled by the brain through the phrenic nerve, we are enabled to instantly cure hiccup.

TREATMENT.

1. Stand behind the patient and with the fingers of each hand push the muscles at the side of the neck forward and press gently on the front of the transverse processes of the third, fourth, and fifth cervical vertebræ (cut 12).

2. Place the knee between the patient's shoulders and raise the arms high above the head, lifting strongly (cut 5).

This will instantly cure any case of hiccup not caused by approaching death.

NEUROMATA.

(Tumor of a nerve.)

SYMPTOMS.

Darting and shooting pain; paresthesia and anesthesia; muscular spasms; paresis, which deepens into paralysis.

TREATMENT.

1. Manipulate the muscles very gently and carefully in in the immediate region of the tumor, endeavoring as far as possible to give extension.

2. Place the hand or finger-tips over the tumor, and vibrate (pages 36 and 67) gently two minutes.

Treatment should be given each day.

NEURITIS.

(Inflammation of a nerve. May be acute or chronic.)

SYMPTOMS.

Boring or burning pain, increased by movement, pressure, or position, and may extend to structures supplied by

the nerve; skin over affected parts red, and may be edematous; wasting of the muscles; paresis or paralysis; may be eruptions in the course of the nerve.

TREATMENT.

1. Manipulate very gently and carefully the muscles surrounding the diseased nerve, giving as much extension as possible.

2. Vibrate (pages 36 and 67) one minute over the seat of pain.

Treatment should be given each day.

MULTIPLE NEURITIS.

(Simultaneous inflammation of many nerves.)

SYMPTOMS.

Most frequently attacks nerves of the arms and legs. pain; swelling; tenderness; tingling; numbness. The affected muscles lose power, waste, and show degenerative reaction.

TREATMENT.

This disease should be treated in a similar manner to Acute Articular Rheumatism (page 289), manipulating the muscles in the regions of the inflamed nerves gently but thoroughly; also giving thorough extension.

In acute cases treatment should be given every day, and in chronic cases every other day is sufficient.

NEURO-PARALYTIC HYPEREMIA.

(Excess of blood in the part, due to destruction of certain sympathetic or mixed nerves.)

SYMPTOMS.

Destruction of the cervical sympathetic nerves by wound, tumor, or abscess, produces hyperemia of the side of

the face; parts are swollen, red, and hot; elevation of temperature; and contraction of the pupil.

No cure in Osteopathy.

PARESIS.

(Partial paralysis, affecting muscular motion, but not sensation.)

SYMPTOMS.

Weakness of the muscles, with certain motions still possible.

TREATMENT.

See Paralysis (page 328).

PARALYSIS, OR PALSY.

(Loss or material diminution of the power of contractility in the voluntary or involuntary muscles, and sometimes of the power of perceiving sensation, in one or more parts of the body.)

SYMPTOMS.

Palsy is a disease principally affecting the nervous system, characterized by a loss or diminution of motion or feeling or of both in one or more parts of the body. When one entire side of the body from the head downward is affected, it is distinguished among professional men by the name of **hemiplegia**; if the lower half of the body be attacked by the disease, it is named **paraplegia**; and when confined to a particular limb or set of muscles, it is called **paralysis.** Palsy usually comes on with a sudden and immediate loss of motion and sensibility of the parts. It is sometimes preceded by a numbness, coldness, and paleness, and sometimes by slight convulsive twitches. When the head is

much affected, the eye and mouth are drawn to one side, the memory and judgment are much impaired, and the speech indistinct; if the extremities are affected, it not only produces a loss of motion and sensibility, but a wasting of the muscles of the affected parts. The attack is usually preceded by some of these symptoms, but occasionally the disease advances more slowly; a finger, hand, or arm, or the muscles of the tongue, of the mouth, or of the eyelids, being first affected.

CAUSE.

Paralysis in its various forms, while stubborn, can invariably be cured by our method if taken in time, and even in its last stages great good may be done the patient. Osteopathy is the only rational method of treating this disease. It is caused by a pressure on some of the various nerve-centers, or paralysis of any part may be caused by pressure on the nerves which control that part. The brain, spinal cord, and nerves may justly be compared to an immense telegraph system, the nerves carrying messages to and from the brain.

That the average reader may have a more correct understanding of the nervous system, of the power which causes the heart to beat, the blood to flow, the lungs to inhale, the alimentary canal to perform its allotted task, and the muscles to act, let us dwell for a moment on the brain, the spinal cord, and the vertebral or spinal column, as it is on this line of thought that we must reach paralysis.

The **nervous system** is composed—

First: Of a series of large centers of nerve-matter, called collectively the cerebro-spinal center or axis.

Second: Of smaller centers, called ganglia.

Third: Of nerves connected either with the cerebro-spinal axis or ganglia; and

Fourth: Of certain modifications of the peripheral terminations of the nerves, forming the organs of external sense.

The cerebro-spinal center consists of two parts, the spinal cord and encephalon, or brain; the latter may be subdivided into the cerebrum, cerebellum, pons varolii, and the medulla oblongata.

The spine is a flexible and flexuous column, composed of thirty-three separate and distinct bones in the child, and twenty-six in the adult, articulating with each other and the ribs, enclosing and protecting the spinal cord, supporting the head and trunk, and permitting the escape through its numerous foramina of the nerves which control the body. Is not this indeed a grand and wonderful piece of mechanism? So strong, so delicate, so perfect!

It is to this part of the human machinery that we trace half the ills that flesh is heir to. It is here that we find centers on which a simple pressure of the hand will cure cholera morbus, flux, cramp in the stomach, vomiting, etc., and it is here we must search for the cause and cure of paralysis.

HOW TO MAKE THE EXAMINATION.

Place the patient on his face and carefully examine the spine; in perfect health the vertebræ are all in line. If you find one of the spinous processes a little out of line, you have discovered the cause. It may be the result of an accident, it may be turned slightly out of its normal position by a contracted muscle; be that as it may, we have here a pressure on the spinal cord, causing partial or complete paralysis.

TREATMENT.

1. Free the muscles thoroughly (as shown in cut 7) on each side of the spine the entire length, particularly at the seat of trouble.

2. Let one assistant now take the patient's shoulders, another his feet, and pull steadily, slowly, and strongly, while the third presses the spinous process back in its place. It may take several treatments, but you will gain a little every time and finally succeed. There is absolutely no danger connected with this treatment if ordinary care is used.

3. Place the patient on his back; with one hand under the chin and the other under the back of the head, pull steadily until the body moves. This must not be omitted, as it starts up circulation in the spinal cord, and even reaches the brain.

4. Raise the arms and ribs as in cut 4.

5. Treat the limbs for circulation.

6. Stretch the **great sciatic**: the largest nerve in the body, measuring three-quarters of an inch in breadth, and which is the continuation of the lower part of the sacral plexus; it passes out of the pelvis through the great sacro-sciatic foramen below the pyriformis muscle and descends between the great trochanter and the tuberosity of the ischium, along the back of the thigh, to about its middle third, where it divides into two large branches, the internal and external popliteal nerves.

To stretch the sciatic nerve, place the patient on his back, stand at the side of the table, and grasp with the right hand the right ankle, your left hand resting lightly on the patient's knee; now flex the leg slowly against the abdomen as far as possible, using as much strength as the patient can stand (see cut 32). While in this position move the knee three or four times from right to left, without relaxing the pressure; now slowly extend the leg, throwing the knee to the right, the foot to the left, as shown in cut 36. This should be repeated two or three times, and be reversed occasionally,

throwing the knee to the left and the foot to the right. Treat the left limb in a similar manner.

A treatment should not occupy over fifteen minutes, and should be given every day.

This treatment will benefit and usually cure paralysis in any of its varied forms. If no dislocation is found, give the same treatment, as you may have overlooked it, and simply stretching the body will allow a very slight dislocation to slip back and free the spinal cord.

Of the numerous cases of paralysis successfully treated by us, we might mention a little girl at Benjamin, northeastern Missouri. She had been a bright, active child until two weeks before she was brought to us for treatment, when it was noticed that she was losing the use of her lower limbs. We explained to the mother the cause of the trouble, a slip in the lumbar vertebræ throwing a pressure on the spinal cord, thus partially cutting off communication between the limbs and the brain. Her old family doctor insisted that the child had worms, and treated her for the same for four weeks, when the little sufferer had entirely lost the use of her lower extremities; he turned her over to us with the remark that he did not understand the case. After four treatments as laid down in this work, the child could walk, and in three weeks was romping with her playmates.

We will refer also to the case of a young lady of Galena, Kansas, suffering from creeping paralysis, or locomotor ataxia. This dread malady is caused by a diseased condition of the posterior column of the spinal cord, and our treatment, stretching and rotating the spine thoroughly, frees the cord and starts the circulation. The young lady in question was not only perfectly helpless, but her digestive organs and kidneys failed to act. In connection with our usual Paralysis Treatment, we gave the Kidney and Constipation Treat-

CUT 36.—Freeing the Circulation.

ment. In a short time the lady could walk with assistance, and in two months was on the high road to perfect health.

ATROPHY (SHRINKING OF MUSCLES).

Atrophy of any part might well be mentioned at this time, it being a form of paralysis. It will be remembered that we mentioned the fact of the nerves controlling the caliber of the arteries, thus regulating the blood-supply. In atrophy we are confronted with a condition in which the nerves controlling the arteries which feed the withered parts are interfered with. The wires are down and the cry of hunger from the starving muscles never reaches the brain.

But even assuming that the brain is apprised of the fact that certain muscles are starving, that they need more blood, its message to the arteries to expand never reaches its destination. If it is the muscles of the leg that are starving, why not flex the leg upon the abdomen (see cut 36), rotating it inward and outward, thereby stretching the muscles and freeing and stretching the nerves at fault? We have absolutely never known this method to fail to restore shrinking limbs to their normal size. We have cured case after case by this simple, reliable, and infallible method, and there is no reason why any of our readers should not be equally successful in cases not complicated.

A good general rule in all cases of atrophy of the muscles is to use the affected member as a lever with which to stretch the muscles connecting it to the body in all possible directions, as it is here the obstruction is usually found, and by acting on these principles you will stretch the right muscle, thus freeing the nerve and permitting the blood to pass down and nourish the affected parts. It is simply wonderful how quick Nature will respond. If a measurement of

the shrunken member is taken, you will know exactly how fast you are progressing; and we venture the assertion that in one month, giving a treatment every other day, you will have gained from one to two inches.

One old gentleman treated by us in Baxter Springs, Kansas, whose leg had been shrunken for years, grew an inch and a half in one month's treatment, measured around the ankle. Another, a young man of the same city, had his arm restored to usefulness in the same remarkable yet simple manner. We would not be understood as saying the limb will gain much in length in the adult; the great improvement will be noticed in size and strength.

SPINAL ANEMIA.

(Deficiency of blood in the spinal cord.)

SYMPTOMS.

Difficult to distinguish, except when associated with general anemia, or caused by sudden hemorrhage; paresis of the muscles; aching in the legs; and may be wasting of the extremities.

TREATMENT.

1. Place the patient upon the back; one operator grasping the shoulders, the other the feet, give very thorough extension of the spine, continued one minute, pulling as hard as the patient can stand.

2. Place one hand under the chin, the other under the occipital; an assistant holding the feet, pull slowly but strongly one minute, being careful not to rotate the head.

3. Place the patient upon the side; beginning at the upper cervicals, move the muscles upward and outward very deeply the entire length of the spinal column.

The above treatments free the entire circulation to the spinal cord.

4. It is always well to give flexion, extension, rotation, and manipulation to the limbs, if the condition would indicate the need of such treatment.

Treatment will occupy about fifteen minutes, and should be given every other day until recovery.

SPINAL HYPEREMIA.

(Excess of blood in the spinal cord.)

SYMPTOMS.

Feeling of fullness, weight, or aching in the back; motor weakness and feeling of heaviness in the limbs, relieved when the patient lies down.

TREATMENT.

See Spinal Anemia (page 334).

This disease being an excess of blood in the spinal cord, it is obvious that freeing the entire circulation to and from the spine would be efficacious, the object of the osteopath being always to remove the cause.

ACUTE SPINAL MENINGITIS.

(Inflammation of the spinal meninges.)

SYMPTOMS.

Pain in the back, increased by motion or pressure; numbness; tingling; twitching and spasms, accompanied by pain; rigidity of muscles; fingers drawn over the skin leave red streaks.

TREATMENT.

See Cerebro-Spinal Meningitis (page 263).

CHRONIC SPINAL MENINGITIS.

(May follow acute attack.)

SYMPTOMS.

Same as acute form, but less painful, of longer duration, and may be irritation of the head.

TREATMENT.

See Cerebro-Spinal Meningitis (page 263).

CERVICAL PACHYMENINGITIS.

(Inflammation of the dura mater in the cervical region.)

SYMPTOMS.

Pain in back of head, neck, shoulders, and arms; wasting of groups of muscles of the arms and hands. May lead to deformity.

TREATMENT.

1. Place the patient on the back; one hand under the chin, the other under the occipital, give thorough extension of the neck, pulling until the body moves; also give gentle extension, at the same moment rotating the head quite strongly from side to side.

2. Place the left hand on top of patient's head, the right arm and hand under patient's head and neck, the fingers between the scapulæ, two on each side of the fourth or fifth dorsal; press hard with the ends of the fingers, moving the muscles toward the head, at the same instant pressing hard with the left hand upon and rotating the head, which should be continued, the fingers of the right hand gradually working towards the upper cervicals, until the first cervical is reached (cut 46).

3. Place the left hand under patient's shoulder, the

fingers upon the right side of the first dorsal vertebra, and close to the spine; draw the right arm slowly and strongly above the head, lower the arm with a backward motion, pressing hard with the fingers at the same instant; move the fingers down to the next dorsal, raise the arm as before, and repeat until the sixth dorsal is reached. Treat the opposite side in a similar manner.

4. Place the hand upon the sides of the neck, the fingers almost meeting over the upper cervicals; tip the head backward, pressing quite hard with the fingers three or four minutes.

Treatment should be given each day, and will occupy about fifteen minutes.

EXTRA-MENINGEAL HEMORRHAGE.

(Hemorrhage between the dura mater and the vertebræ, due to traumatism, convulsion, violent exertion, or rupture of an aneurism.)

SYMPTOMS.

Resemble those of Spinal Meningitis, but are more sudden and violent; no fever; pain in the back opposite the hemorrhage; may be paresis, or paraplegia.

Not treated successfully by Osteopathy.

SPINAL COMPRESSION.

(Compression of the spinal cord, due to tumor, dislocation, fracture, etc.)

SYMPTOMS.

Local pain in back, aggravated by movement; loss of motion in parts supplied by the nerves which originate below the compression; increase of reflexes.

TREATMENT.

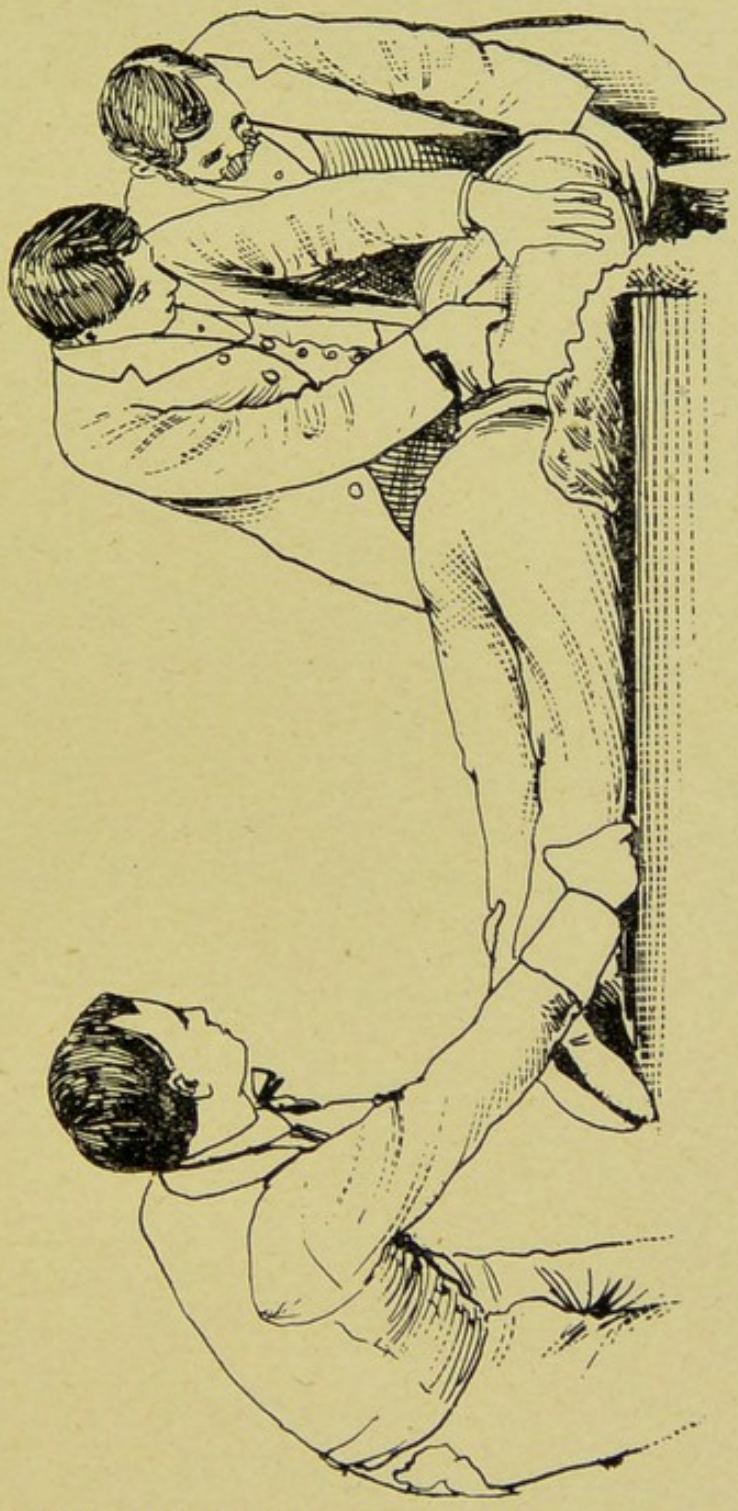
1. Gentle and thorough manipulation of the muscles of the back in the region of the compression.

2. If due to a dislocation, place patient on the face; one assistant holds the shoulders, while a second grasps a limb, giving strong extension, at the same time also moving the body gently in such a manner as may be directed by the operator, who, with thumbs upon the dislocated vertebra, works it gently back to its normal position (cut 37).

Many remarkable cures have been effected in this manner.

The following account of the marvelous cure of John Richter, of Osawatomie, by Dr. O. C. Payne, a graduate of Dr. E. D. Barber's National School of Osteopathy at Baxter Springs, Kansas, appeared in the Osawatomie *Globe* of February 6, 1896:

"Three months ago John Richter, a boiler-maker, in the employ of the Missouri Pacific at this place, was seized with a peculiar malady and became helpless. He was practically paralyzed from the knees down and from the elbows down to the finger-tips. His limbs were numb and he could not use his hands or feet. He went to Kansas City about the first of December and entered the company hospital at that place. He was placed in charge of a renowned specialist, who pronounced his trouble 'locomotor ataxia.' The specialist did everything known to science for the relief of Mr. Richter, but without any good results. Richter grew rapidly worse, when, after eight weeks of treatment, he was informed that he was beyond human help and would be a hopeless invalid the rest of his days, which could not be long. He came home a week ago and was placed under the care of O. C. Payne, the osteopath who has created such a sensation in this section for sev-



Cut 37.—Reducing a Spinal Dislocation.

eral months by performing numerous cures without the use of medicine. The *Globe*, from time to time, has given the public full details of his system of practice, and a small portion of the remarkable results in performing cures. Dr. Payne diagnosed Richter's case and quickly determined that he was not suffering from locomotor ataxia, but from a spinal injury caused by concussion. He began operations on him and yesterday gave him the fifth treatment, and, strange to relate, Richter is on the high road to recovery. He was assisted by friends to get up to Payne's office Tuesday week, and used a crutch. Yesterday he walked firmly up stairs alone and unattended, and confidently believes he could walk several miles, and expects to report ready for duty as boilermaker in a few days. Richter is the happiest fellow in Osawatomie. Two weeks ago a cheerless, helpless future was all he could see, but to-day he is so near a well man again and is progressing so finely that he wants to place the credit where it is due, and credits skillful Dr. Payne for his restoration to health."

SPINAL TUMOR.

(Tumor of the spinal cord.)

SYMPTOMS.

Pain and gradual paralysis; muscular spasms; girdle sensation; atrophy; pains darting, shooting, and paroxysmal.

TREATMENT.

1. Very thorough, deep, and careful manipulation of the muscles in the region of the tumor.
2. Thorough extension of the spinal column.
3. Vibration (pages 36 and 67) over tumor two minutes.

SYRINGOMYELIA.

(Abnormal dilatation of the central canal of the spinal cord, having abnormal cavities in the spinal marrow, due to the breaking down of its substance.)

SYMPTOMS.

Muscular weakness and wasting; alteration of sensation; sense of cold, heat, and pain are lost; sphincters usually involved.

Not treated successfully by Osteopathy.

ACUTE MYELITIS.

(Inflammation of the spinal cord.)

SYMPTOMS.

Elevation of temperature; pain in the back; loss of motion and sensation of parts supplied by the nerve arising below the seat of inflammation; reflexes in the distribution of the nerves arising from the inflamed region are lost, also control of the sphincter. More common in males.

CAUSE.

This disease is caused by an obstruction of the circulation from the spinal cord.

TREATMENT.

Can be cured by such extension and manipulation as will best tend to free the circulation, thus reducing the inflammation of the cord.

See Spinal Anemia (page 334).

CHRONIC MYELITIS.

(May follow acute myelitis or chronic meningitis.)

SYMPTOMS.

Impairment of motion and sensation; dull pain in the legs; a decided girdle sensation; exaggeration of the reflexes; sphincters involved; of long duration.

TREATMENT.

This disease may be benefited by a thorough manipulation and extension of the spine.

See Spinal Anemia (page 334).

HEMATOMYELIA.

(Hemorrhage of the spinal cord.)

SYMPTOMS.

Sudden severe pain in the back; loss of motion, sensation, and perhaps consciousness; girdle sensation; sphincters likely deranged.

Not treated successfully by Osteopathy.

ANTERIOR POLIOMYELITIS.

(Inflammation of the anterior horns of the gray matter of the cord.)

SYMPTOMS.

Onset sudden, may be marked by fever and complete paralysis, which abates, leaving certain muscles paralyzed; sensation and sphincters are undisturbed. Most common in children and in the summer.

TREATMENT.

Thorough manipulation and extension of the spine, with

a view of freeing the circulation and thereby reducing the inflammation.

See Spinal Anemia (page 334).

LOCOMOTOR ATAXIA, OR POSTERIOR SPINAL SCLEROSIS.

(Degeneration of the posterior column of the cord.)

SYMPTOMS.

Lightning pains in the legs; absence of knee jerk; incoordination of movements, without paralysis or muscular wasting; unsteadiness of gait; girdle sensation; pupils do not respond to light; loss of sexual power. More common in males.

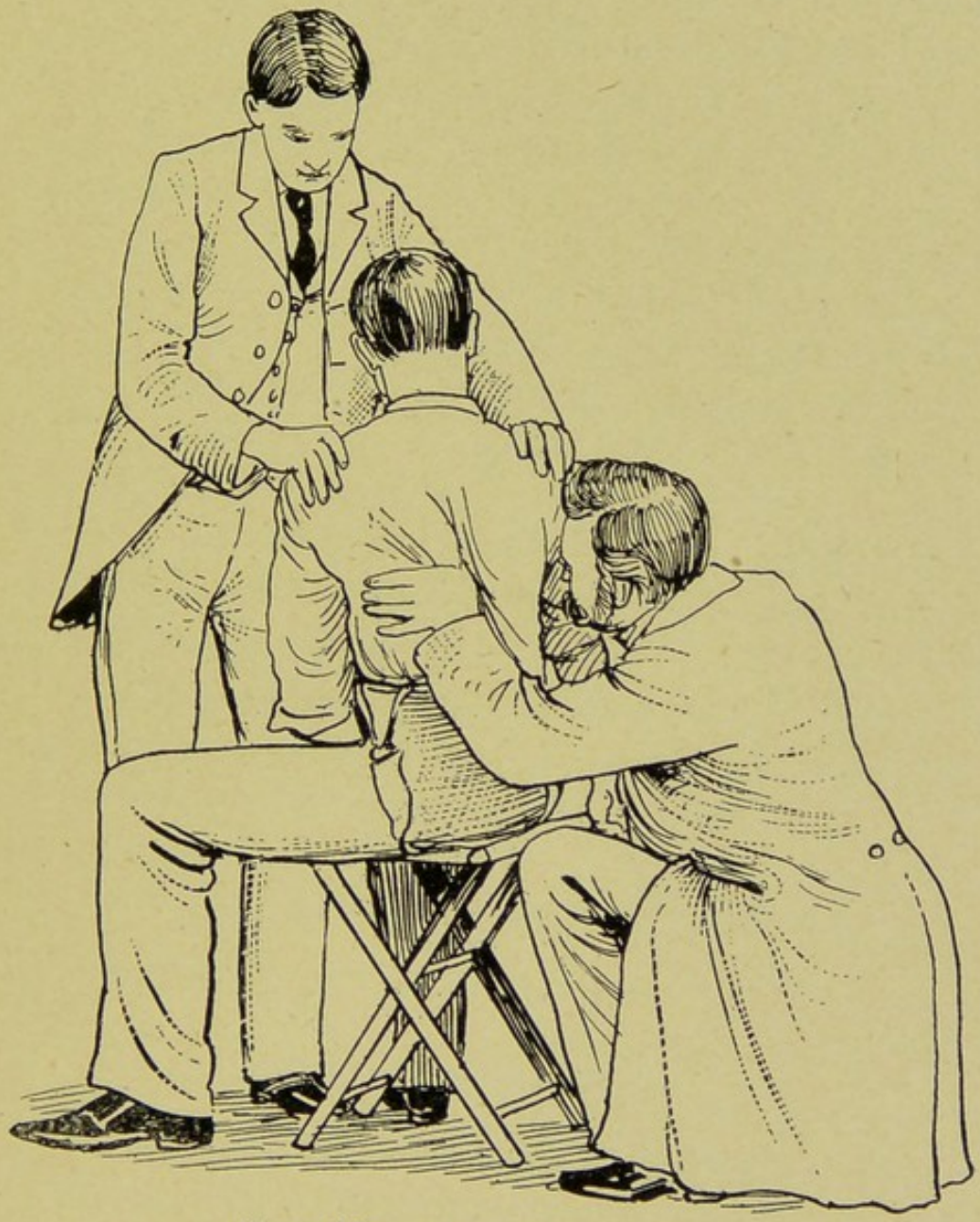
TREATMENT.

1. Place the patient on the side; beginning at the upper cervicals, move the muscles upward and outward, thoroughly and very deep, the entire length of the spinal column. Treat the opposite side in a similar manner.

2. Grasping the patient beneath the shoulders, in the axilla, as he lies on the back, an assistant grasping the feet, give thorough extension of the spine, pulling hard one minute.

3. Place the patient upon a stool; the thumbs of the operator upon the angles of the second ribs, an assistant raising the arms high above the head, press hard with the thumbs as the arms are lowered with a backward motion (cut 11) move the thumbs down to the next lower ribs; raise the arms as before, and repeat until the eighth dorsal vertebra is reached.

4. Kneeling behind the patient, place the thumb of the left hand upon the right transverse process of the ninth dorsal vertebra; an assistant standing in front, places



Cut 38. – Locomotor Ataxia

the hands upon the patient's shoulders and rotates the body as far as possible to the right; as the body turns, press very hard with the thumb of the left hand (cut 38); place the thumb of the right hand upon the left transverse process of the next lower vertebra, press hard as the body is rotated slowly as far as possible to the left, the patient relaxing all muscles; work in this manner until the last lumbar vertebra is reached.

5. If the patient is constipated, very thorough Treatment for Constipation (page 107) should be given.

6. Flex the limbs very strongly against the chest, giving strong abduction, and extending with a light jerk.

Treatment will occupy about fifteen minutes, and should be given every other day.

A decided improvement should be noticed during the first month's treatment, and a cure should be effected in from three to six months.

Osteopaths are very successful in the treatment of this disease, always benefiting the patient, and curing most cases, not the result of syphilitic troubles.

PRIMARY SPASTIC PARAPLEGIA.

(Degeneration of the pyramidal tract of the spinal cord.)

SYMPTOMS.

Loss of motion in the lower extremities; absence of wasting; sphincters involved, but not sensation; exaggerated reflexes; and spasmodic contraction of the muscles.

TREATMENT.

See Locomotor Ataxia (page 344).

CONGENITAL SPASTIC PARAPLEGIA.

(Degeneration of the pyramidal tracts of the cord, due to injury of the child during birth.)

SYMPTOMS.

Child late in learning to walk; peculiar gait; one foot being placed over or in front of the other; growth may be retarded; may be convulsions; defective mental development.

No cure in Osteopathy.

ATAXIC PARAPLEGIA, OR PRIMARY LATERAL SCLEROSIS.

(Degeneration of the posterior and lateral columns of the spinal cord.)

SYMPTOMS.

Loss of motion and coördinating powers; absence of lightning pains; muscular reflexes preserved, and muscles do not atrophy; may be lack of control of sphincters; may be dull pains in the back and legs; sexual power lost.

TREATMENT.

See Locomotor Ataxia (page 344).

HEREDITARY ATAXIA, OR FRIEDREICH'S DISEASE.

(Degeneration of the posterior and lateral columns of the spinal cord.)

SYMPTOMS.

Most frequent about the period of puberty; arms and speech involved; lightning pains absent; incoördination first in the legs, then in the arms; muscular reflexes abolished; oscillatory movements of the eyeballs.

TREATMENT.

See Locomotor Ataxia (page 344).

PROGRESSIVE MUSCULAR ATROPHY, OR AMYOTROPHIC LATERAL SCLEROSIS.

(Degeneration of the multipolar cells in the gray matter of the anterior horns of the pyramidal tracts.)

SYMPTOMS.

Usually attacks an arm first, and muscles of either hand or shoulder, next the leg; feeling of soreness and weakness; atrophy steadily progresive; respiration embarrassed, as the diaphragm becomes involved; sphincters not usually involved, but loss of sexual power.

TREATMENT.

1. See Locomotor Ataxia (page 344).

2. Place the hands under the chin and occipital bone; give very strong extension of the neck, being careful not to rotate the head.

3. Give gentle extension of the neck, at the same time rotating the head as far as possible from side to side; also manipulate thoroughly all muscles of the neck.

4. Manipulate in a very thorough manner the limbs in which atrophy has made its appearance, giving flexion, extension, and rotation of the member.

Treatment will occupy about twenty minutes, and should be given every other day.

PSEUDO-HYPERTROPHIC MUSCULAR PARALYSIS.

(Loss of power of motion, with hypertrophy of muscles.)

SYMPTOMS.

Appears usually in childhood; may be congenital; calf muscles first involved; stumbles and falls on attempting to

run; gastrocnemii much enlarged; other muscles gradually become involved; finally wasting of the latissimus dorsi and lower part of the pectoralis major.

TREATMENT.

If this disease is taken in its early stages, it can be cured by thorough extension and rotation of the spine, with thorough manipulation of the muscles involved, thus freeing the circulation to the spinal cord, also between the muscles involved and the heart.

See Progressive Muscular Atrophy (page 349).

SIMPLE IDIOPATHIC MUSCULAR ATROPHY.

(Similar to Pseudo-Hypertrophic form, except muscles do not hypertrophy.)

SYMPTOMS.

Wasting in arms, legs, and face, gradually extending to the rest of the body; reflexes enfeebled; deformities result.

TREATMENT.

See Progressive Muscular Atrophy (page 349).

ARTHRITIC MUSCULAR ATROPHY.

(Wasting of the muscles about a joint.)

SYMPTOMS.

In the course of inflammation of a joint the contiguous muscles undergo a varying degree of atrophy, usually involving the extensors; if the arthritis continues for a long period, the reflexes in the region are heightened.

TREATMENT.

1. Thorough extension of the spine, and rotation.

2. Flex the limb strongly against the abdomen, giving strong abduction as the limb is extended; also manipu-

late the muscles thoroughly and deep the entire length of the limb, being exceedingly thorough with the atrophied muscles.

3. Should the atrophy be in the arm, place the thumb of one hand just above the first dorsal, upon the side of the spine where the atrophy exists, raise the shrunken arm gently but strongly above the head, and press hard with the thumb, moving the muscles upward, as the arm is lowered with a backward motion; move the thumb down to the next vertebra and raise the arm, and repeat until the lower border of the scapula is reached.

4. Give thorough extension of the neck, manipulating all muscles in the back and sides of the neck.

5. Extend the arm, manipulating the muscles thoroughly and deep its entire length, being very thorough in the atrophied region.

Treatment should be given every other day.

MYOTONIA CONGENITA, OR THOMSEN'S DISEASE.

(Congenital affection of the muscles.)

SYMPTOMS.

Muscular spasms on moving after rest, which relaxes if movement is continued; spasms intensify by emotion or fear.

TREATMENT.

This trouble is sometimes benefited by extension, rotation, and manipulation of the spine and muscles.

See Arthritic Muscular Atrophy (page 350).

ANALGESIC PANARIS, OR MORVAN'S DISEASE.

(Painless inflammation and necrosis of the fingers.)

SYMPTOMS.

Pain, followed by analgesia and necrosis; usually curvature of the spine.

Not treated by osteopaths.

ACUTE ASCENDING PARALYSIS.

(Rapid and progressive paralysis, beginning in the feet and extending upward.)

SYMPTOMS.

Muscles of the trunk, chest, arms, and neck involved; swallowing and speech may be abolished; sensation unaffected; reflexes enfeebled.

TREATMENT.

See Locomotor Ataxia (page 344).

1. Place the patient upon the back; with one hand under the chin, the other under the occipital, give thorough and strong extension of the neck.

2. Give gentle extension of the neck, rotating the head gently but strongly from side to side; also manipulate thoroughly all muscles of the neck.

The limbs should be flexed, rotated, and the muscles manipulated in a very thorough manner.

CEREBRAL ANEMIA.

(Deficiency of blood in the brain.)

SYMPTOMS.

Syncope; failure of vision; ringing in the ears; nausea; vertigo; pallor of the face; loss of consciousness; nystagmus; and may be convulsions.

TREATMENT.

1. Place the hands under the chin and occipital, giving gentle extension and rotation to the neck.

2. Manipulate very thoroughly and deeply all the muscles of the neck, being very particular in the region of the large arteries that supply the head, thus freeing the circulation to the brain.

3. Place the patient upon a stool; the thumbs of the operator close to the spinal process of the seventh cervical, the fingers resting upon patient's shoulders, with the thumbs pressing hard, move the muscles upward and outward as low as the fifth dorsal vertebra.

4. Place the knee between the scapulæ, about the third or fourth dorsal vertebra, raise the arms strongly above the head as the patient inhales, and lower the arms with a backward motion, pressing hard with the knee at the same instant.

Treatment will occupy about ten minutes, and should be given each day until recovery.

CEREBRAL HYPEREMIA.

(Excess of blood in the brain.)

SYMPTOMS.

Dull headache, with feeling of fullness; florid complexion; slight dizziness; flashes of light; and may be loss of consciousness.

TREATMENT.

Thorough General Treatment (page 306) to equalize the circulation.

Treatment should be given each day until recovery.

CEREBRAL MENINGITIS.

(Inflammation of the cerebral meninges.)

SYMPTOMS.

Headache; vomiting; convulsions; delirium; stiffness of muscles of back of the neck; coma; and paralysis.

TREATMENT.

See Brain Fever (page 276).

CEREBRAL TUBERCULAR MENINGITIS.

(Inflammation of the cerebral meninges, associated with tubercle bacillus.)

SYMPTOMS.

Emaciation; peevishness; evening fever; evidence of tubercle elsewhere; headache; causeless vomiting; constipation; nightmare; irregular pulse; strabismus. Usually in children.

Not treated successfully by Osteopathy.

CEREBRITIS, ENCEPHALITIS, OR PHRENITIS.

(Inflammation of the brain structure.)

SYMPTOMS.

Fever; convulsions; headache; vertigo; and delirium.

TREATMENT.

See Brain Fever (page 276).

APOPLEXY, OR CEREBRAL HEMORRHAGE.

(Paralysis from rupture of a cerebral blood-vessel.)

SYMPTOMS.

Loss of consciousness; muscular relaxation; temperature depressed; pulse slow, hard, and full; reflexes abol-

ished; may be convulsions, as consciousness returns; usually face, arms, and legs are paralyzed on the opposite side to the lesion; phonation and articulation affected.

TREATMENT.

This trouble can be greatly benefited by thorough General Treatment (page 306), omitting No. 9.

Treatment should be given each day.

CEREBRAL EMBOLISM AND THROMBOSIS.

(Plugging of a cerebral blood-vessel.)

SYMPTOMS.

Loss of consciousness; sometimes convulsions; spasmodic disorder of movements; numbness; tingling; vertigo; and headache.

TREATMENT.

Benefited by General Treatment (page 306), omitting No. 9; given each day.

ACUTE CEREBRAL SOFTENING.

(Softening of brain, as result of embolism or thrombosis.)

SYMPTOMS.

Resemble those of apoplexy; loss of consciousness not usually so profound, or as long in duration; coma and convulsions.

TREATMENT.

Sometimes benefited by General Treatment (page 306), omitting No. 9.

CHRONIC CEREBRAL SOFTENING.

(Affection of the degenerative period of life.)

SYMPTOMS.

Impaired sensation; progressive loss of motion; mental deterioration.

TREATMENT.

See General Treatment (page 306), from which patient often derives great benefit. Treatment should be given every other day.

CEREBRAL TUMOR.

(Tumor of the brain.)

SYMPTOMS.

Headache; vomiting; optic neuritis; vertigo; mental change. More common in males.

No cure in Osteopathy.

CEREBRAL ABSCESS.

(Abscess of the brain, usually caused by traumatism.)

SYMPTOMS.

Fever, and rigor; localized headache; vertigo; vomiting; optic neuritis.

No cure in Osteopathy.

INFANTILE HEMIPLEGIA.

(Acute cerebral paralysis, occuring in children, on one side, during first five years of age.)

SYMPTOMS.

Vomiting; convulsions; drowsiness or coma; as opposite side grows the affected side becomes shortened and wasted; sensation unimpaired.

TREATMENT.

The general health of the child can be greatly improved by General Treatment (page 306).

CEREBRO-SPINAL SCLEROSIS.

(Chronic degeneration of the brain and cord.)

SYMPTOMS.

Nystagmus; scanning speech; reflexes exaggerated; jerky tremor; may be headache, vertigo, and optic neurisis.

Not treated successfully by Osteopathy.

GLOSSO-LABIO-LARYNGEAL PARALYSIS, OR BULBAR PARALYSIS.

(Chronic degeneration of the nuclei of the medulla.)

SYMPTOMS.

Loss of power of articulation and deglutition; atrophy of the muscles involved; inability to close the lips; food enters larynx; reflex action lost; sensation not affected.

Not treated successfully by Osteopathy.

PARALYSIS AGITANS, OR SHAKING PALSY.

(Paralysis occurring in old age. More common in males.)

SYMPTOMS.

Muscular tremor, beginning in hands and extending to arms, then to legs; sensation of increased heat in affected parts; no pain; mind unaffected; general weakness and wasting.

TREATMENT.

The patient can be greatly benefited by thorough General Treatment (page 306).

Also see Paralysis (page 328).

PARETIC DEMENTIA.

(Progressive paralysis of the insane.)

SYMPTOMS.

General change in character and disposition; habits hasty and irregular; loss of coördinating powers for delicate tasks; speech becomes defective; gait becomes shuffling; tremor; delusions; paroxysms.

TREATMENT.

Give treatment for Insanity (see below).

INSANITY.

(A persistent morbid condition of mind due to some derangement of the brain or nervous system, usually characterized by deficiency or loss of volitional and rational control, by excessive activity of the fantasy, and by perverted action of one or more of the mental faculties.)

TREATMENT.

1. Place the patient on the side; beginning at the upper cervical, move the muscles upward and outward, thoroughly and deep, the entire length of the spinal column, being very thorough in the cervical and dorsal regions. Treat the opposite side in a similar manner.

2. Place the patient on the back; one operator holding the shoulders, an assistant the feet, give gentle but very strong extension two minutes.

3. Place one hand under the chin, the other under the occipital; give strong extension of the neck one minute, being particular not to rotate the head when giving strong extension; pull gently, rotating the head as far as possible from side to side.

4. Manipulate very thoroughly, carefully, but deep, all the muscles of the neck.

In case of other complications, such as paralysis, constipation, poor circulation, kidney troubles, etc., give such additional treatment as conditions indicate.

The treatment will occupy ten or fifteen minutes, and should be given each day.

We have known of a large number of cases of insanity having been treated osteopathically, and while none were violent, the results were so very beneficial, and such speedy cures were effected, we believe that almost all forms of insanity would yield readily to this method of treatment, which, removing obstruction, and freeing, as it does, the circulation to the brain and spinal cord, seems the only rational method of treatment for this disease.

EPILEPSY ("FALLING SICKNESS," OR "FITS").

(A chronic brain and nerve disease, characterized in its most violent form by paroxysms recurrent at uncertain intervals, attended by difficult, stertorous breathing, convulsions of the limbs, foaming at the mouth, facial distortion, and loss of consciousness and sensation. In the milder form there may be loss of consciousness without the spasm, or *vice versa*.)

SYMPTOMS.

Mental deterioration; during paroxysm the face is pallid, then flushed, finally cyanotic, pupil dilated and insensible to light; urine may contain albumin.

TREATMENT.

This disease is often caused by partial dislocation of the atlas, or some of the other upper cervical vertebræ. In such

instances, if the dislocation can be discovered and reduced, the patient can be cured.

We find in our practice that about 25 per cent of the cases of epilepsy come under the above head; all others are incurable.

TREATMENT.

1. Place the patient upon the back; the left hand of the operator upon the top of the patient's head, the right hand and arm beneath the head and neck, the fingers, two upon each side of the fourth dorsal vertebra, pressing the muscles upward, toward the head, with the left hand, pressing rather hard upon the top of the head, rotating it from side to side, as the fingers of the right hand are worked gradually upward, moving the muscles very deep until the occipital is reached (cut 46).

2. Place one hand under the chin, the other under the occipital; give thorough extension of the neck, pulling until the body moves; also manipulate thoroughly all the muscles of the front and sides of the neck.

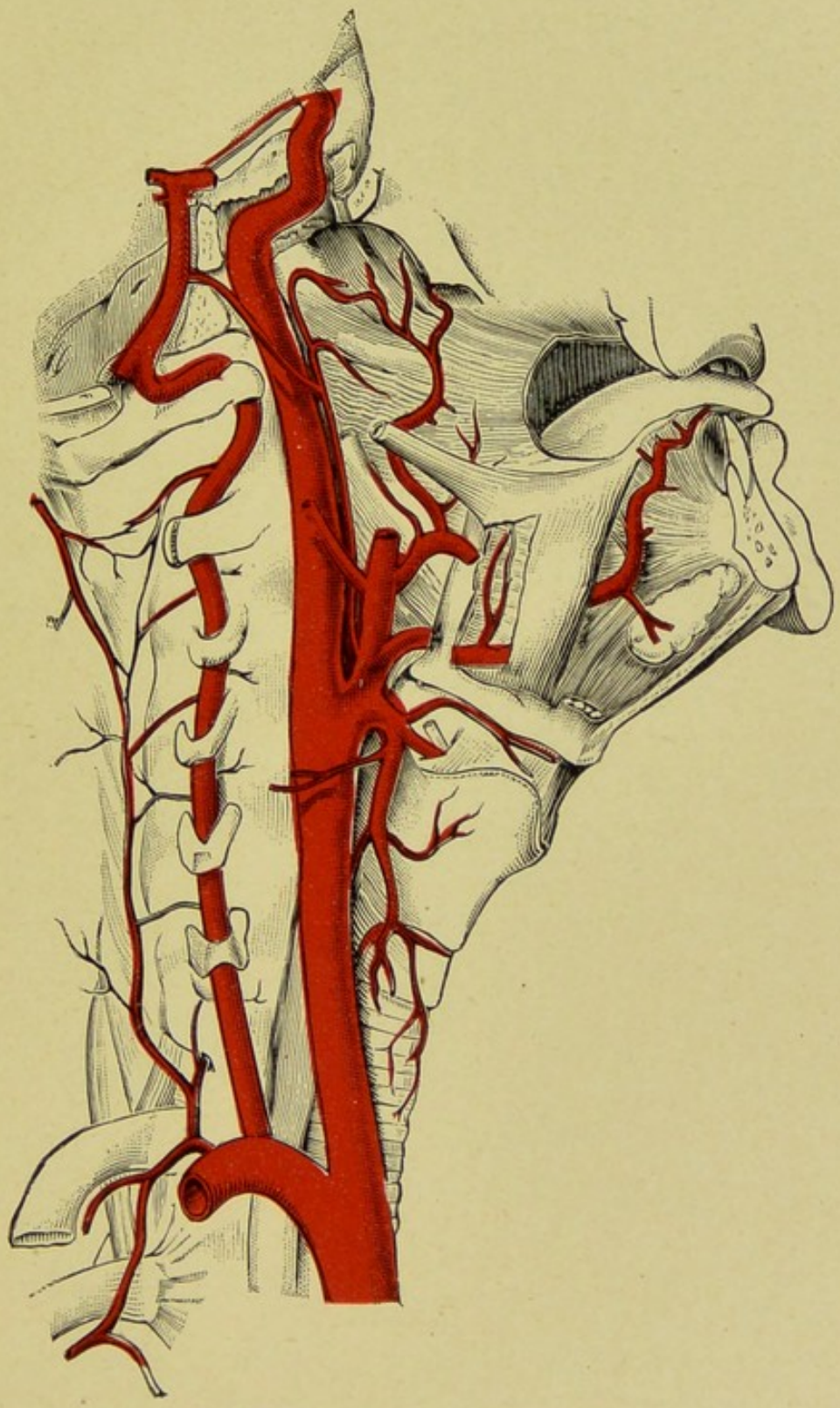
3. See Dislocation of the Atlas (see below).

DISLOCATION OF THE ATLAS.

The spinous process of the atlas is very small, and not always easily discovered; its lateral masses, however, are easily distinguished, even upon very fleshy people, if they are slightly out of line. If through accident, or otherwise, it is partially turned upon its articulation, the transverse process can be felt upon one side, a little posterior to its normal position, at its articulation with the condyle of the occipital; while upon the other it will be discovered too far forward.

To reduce this dislocation, after having given the foregoing treatment:

Stand behind the patient, who should be seated upon a stool; the thumb of the left hand upon the right transverse



Cut 39.—The Cervical Region.

CUT 40.—Reducing Dislocation of Atlas.

process of the atlas (should the right side be thrown backward), place the right hand under patient's chin, the patient's head resting against operator's breast and shoulder; in this position the operator can give strong extension, rotating the head to the left, strongly but gently, and with still greater extension rotate slowly to the right, pressing hard with the thumb upon the transverse process (cut 40).

Care must be exercised to give no unnecessary pain, and to move the atlas but a little each treatment, which should be given every other day until recovery.

In case either of the spinous processes of the cervicals are discovered out of line, the same treatment will apply, placing the thumb upon the side of the spinous process, and pressing it toward its normal position, as extension and rotation are given.

CHOREA, OR ST. VITUS' DANCE.

(Spasmodic neurosis, with involuntary muscular twitching and irregular movements of the limbs.)

SYMPTOMS.

Occurs most frequently in girls between the ages of five and twenty. Incoördinate muscular movements, aggravated by excitement; sensation unimpaired; heart regular; temperature slightly elevated. May be inherited.

TREATMENT.

1. Place the patient on the side; beginning at the upper cervicals, move the muscles upward and outward the entire length of the spinal column, being very particular in all regions where contracted muscles, tenderness to the touch, or any irregular temperature is detected.

2. Place the hands under the chin and occipital, giv-

ing thorough extension of the neck; also rotate the neck as far as possible from side to side, without giving extension; manipulate thoroughly all muscles of the neck.

It is usually well to apply such parts of General Treatment (page 306), as symptoms would indicate.

This disease usually responds very readily to osteopathic treatment, which will require fifteen or twenty minutes, and should be given every other day until recovery.

We sometimes find St. Vitus' Dance caused by a slip or partial dislocation of some of the vertebræ. Careful examination of the spine should always be made, and if any irregularity is found, it must be corrected before we can hope to effect a cure. See Spinal Dislocations.

HYDROCEPHALUS.

(Collection of water within the skull.)

SYMPTOMS.

In congenital form is present at birth. Progressive enlargement of the skull; mental weakness; convulsions; vomiting; wasting; and eyeballs prominent.

No cure in Osteopathy.

INTRACRANIAL ANEURISM.

(Rupture of a blood-vessel in the skull.)

SYMPTOMS.

Headache; vertigo; convulsions; optic neuritis; and palsies.

No cure in Osteopathy.

NEURASTHENIA, NERVOUS DEBILITY, OR NERVOUS PROSTRATION.

(Exhaustion of nerve-force.)

SYMPTOMS.

In the cerebral form, sensation of weight and fullness in the head, with flushes of heat; neck-weariness; aching in the back of the head or neck; weariness in the eyeballs after reading. In the spinal form, tenderness along the spine; aching in the cervical region; backache and pain in the legs; weariness on slight exertion.

TREATMENT.

1. Place the patient on the face; the hands of the operator under the chin and occipital bone, give gentle extension for one minute, pulling until the body almost moves.

2. Placing the hands upon the patient's neck just below the occipital, move the muscles slightly upward, but strongly outward from the spine, the entire length of the spinal column, being very particular and thorough in all regions where an aching or tired feeling is manifest.

3. Beginning at the upper cervicals, with one hand upon each side of the spine, as close to the processes as possible, press gently downward upon each vertebra a few seconds the entire length of the spinal column, being very particular over each of the great nerve-centers.

This treatment has proved very beneficial in all the cases of neurasthenia in which it has been applied.

In case of other complications it is always necessary to apply such accessory treatment as the conditions indicate, which should be given before the Treatment for Neurasthenia.

HYSTERIA.

(Functional nervous affection, with abnormal sensation, emotions, or with paroxysms. Peculiar to females, usually most frequent at the catamenial period, and in the unmarried.)

CAUSE.

Grief; disappointed affections; overspoiling; indolent and luxurious habits; errors in diet; nervous debility, and womb disease.

SYMPTOMS.

Tendency to laughter or tears without apparent cause; spinal tenderness; intense pain in the head at times; surface of the skin may be cool and pale, or hot and red; deficiency of will-power; may be convulsions; eructation of gas and copious discharge of pale urine; sensation of ball in the throat; palpitation of heart; may become cold and lose consciousness.

TREATMENT.

This affection is usually easily and quickly cured by osteopathic treatment. See Neurasthenia (page 367).

Change of scene and associations; general care of bodily health, particularly as regards diet.

Hysteria is often the result of female trouble, in which case we must remove the cause before a cure can be expected. See Gynecology.

EXOPHTHALMIC GOITER, GRAVES' OR BASEDOW'S DISEASE.

(A vaso-motor affection, characterized by great rapidity of heart action; enlargement of the thyroid gland and protrusion of the eyeballs.)

SYMPTOMS.

Thyroid gland gradually enlarges, is painless, soft, and

may pulsate; gradual protrusion of the eyeball, may be inflamed, and to the extent of preventing the closure of the lids; pulse small and irregular, and may beat 150 to 175; appetite impaired; loss of flesh and strength.

TREATMENT.

1. Place the hand under the chin and occipital, and give thorough extension of the neck, using sufficient strength to move the body.

2. Give gentle extension, rotating the head slowly but quite strongly from side to side.

3. Manipulate the muscles in the sides and front of the neck very thoroughly, working under and kneading the goiter as much as possible.

4. Place the patient upon a stool; extending the right arm around the neck, place the right thumb under the left clavicle at about its middle, grasping the patient's left arm, with the disengaged hand, at the elbow, the arm flexed; press the arm upward, thus throwing the clavicle upward and forward, and permitting the right thumb to slip under it at about its center; still pressing upward, move the arm forward, outward, and backward, at the same instant springing upward on the clavicle with the thumb. Treat the opposite clavicle in a similar manner (cut 41).

5. Place the hands on the sides of the patient's neck; tip the head backward, and press hard with the fingers, which should almost meet over the spinous processes of the upper cervicals, three or four minutes (cut 35).

6. Place the hand lightly over the goiter, and vibrate (pages 36 and 67) gently two or three minutes.

If there are any accompanying disorders, such treatment should be given as symptoms indicate.

Exophthalmic goiter is often benefited by this method of treatment, which will occupy about fifteen minutes, and should be given every other day.

LOCAL ASPHYXIA, SYMMETRICAL GANGRENE, OR RAYNAUD'S DISEASE.

(A vaso-motor and vascular affection of the limbs, characterized by tonic contraction of the coats of the blood-vessels, followed by local asphyxia and gangrene.)

SYMPTOMS.

Similar to those of Frost-bite; fingers on both sides become pale, numb, and cold; its onset may be marked by the presence of blood in the urine.

TREATMENT.

This disease is often benefited and sometimes cured in its early stages by a General Treatment (page 306). Treatment should be given every other day.

WRITER'S CRAMP.

(Painful cramping of the fingers while attempting to write. Due to long-continued movements in a strained position, involving the muscles of the arm and hand.)

SYMPTOMS.

Act of writing becomes slow and labored; fingers and hands ache from weariness; spasm increases in intensity; writing finally impossible; tremor rare.

CUT 41.—Raising the Clavicle.

Cut 42.—Brachial Plexus.

TREATMENT.

1. Place the patient upon a stool; with the thumb of the left hand close to the spine, upon the right side, above the first dorsal vertebra, with the right hand draw patient's right arm high above the head, pressing upward with the thumb as the arm is lowered with a backward motion (cut 43); move the thumb down to the next lower dorsal; raise the arm as before, and repeat until the fifth dorsal is reached.

2. Place the hand upon the top of the patient's head, the left thumb upon the right side of the spine at the seventh cervical; press the head downward as far as possible, rotating it slowly but strongly to the left; rotate and raise slowly to its normal position, with the thumb pressing hard, moving the muscles outward from the spine; place the thumb upon the next upper cervical; rotate the head as before, and repeat until the first cervical is reached. Treat the opposite side of the neck in a similar manner.

3. Place one hand under the chin, the other under the occipital; give slow but strong extension of the neck.

The above treatment frees and stimulates the Brachial Plexus (cut 42), which controls the arm.

4. Holding the arm firmly with one hand, with the other beginning at the axilla, rotate the flesh very deeply the entire length of the arm, endeavoring to move the muscles to the bone (cut 44).

Treatment should be given every other day, and will occupy about ten minutes.

TETANUS, TRISMUS, OR LOCK-JAW.

(In this class five varieties are noted: (1) Trismus, or Lock-jaw, limited to the throat and lower jaw; (2) Tetanus, affecting the extensor and flexor muscles of the body in general, with persistent, painful contractions or spasms, either *idiopathic* or, more frequently, *traumatic;* (3) Emprosthotonos, where the body is flexed forward; (4) Opisthotonos, backward; and (5) Pleurothotonos, laterally or to one side only. Trismus is the most common form.)

SYMPTOMS.

Stiffness of the jaw, with tonic spasms; stiffness of the tongue; muscles of the face, neck, spine, and trunk gradually become rigid; grinning countenance; respiration embarrassed; face livid; perspiration.

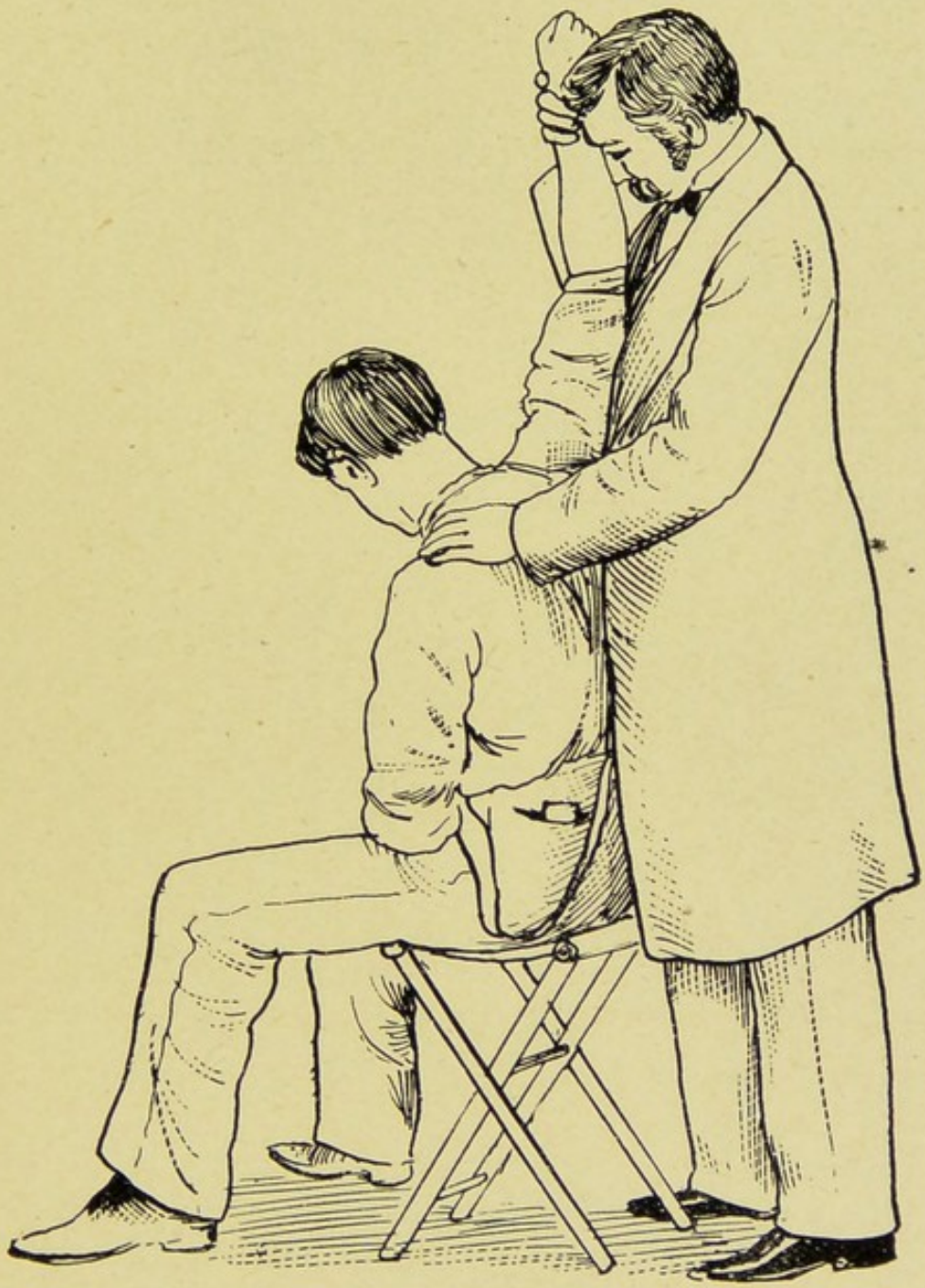
TREATMENT.

1. Place the patient on the side; beginning at the upper cervicals, manipulate the muscles, moving them upward and outward thoroughly and very deeply along the entire length of the spinal column, being particular to manipulate and knead the muscles until they become soft and flexible. Treat the opposite side in a similar manner.

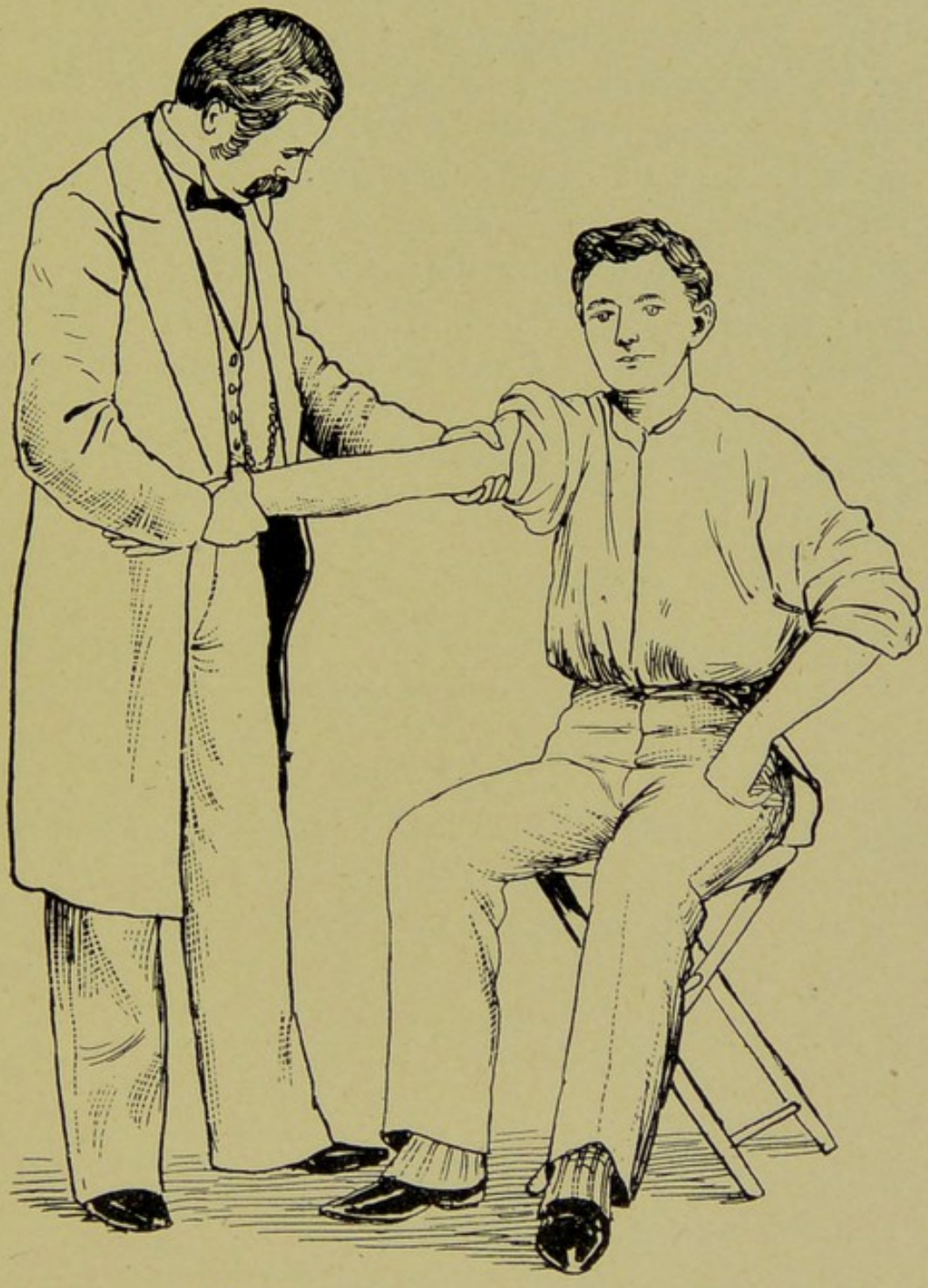
2. One operator grasping the shoulders, another the limbs, give thorough extension of the spine.

3. Place the hands under the chin and occipital bone; an assistant holding the feet, pull slowly and strongly, using as much strength as would be deemed safe.

4. Manipulate all the muscles in the neck, working as far as possible up under the jaws; be particular to knead the muscles until they become soft and flexible.



Cut 43.—Writer's Cramp.



Cut 44.—Freeing the Circulation.

5. Giving very gentle extension, rotate the head as far as possible from side to side.

6. Flex the arms and limbs strongly but slowly, giving them strong abduction, adduction, rotation, and extension, kneading the muscles in a very thorough manner.

7. Draw the arm strongly above the head, pressing hard with the disengaged hand upon the angle of the second rib; lower the arm with a backward motion; move the fingers down to the next vertebra; raise the arm as before, and repeat until the sixth dorsal is reached. Treat the opposite side in a similar manner.

This treatment will occupy about one hour, and should be given twice a day until recovery.

TETANILLA, OR TETANY.

(Tetanic spasms of muscles in the arm and leg, affecting the fingers and toes.)

SYMPTOMS.

Headache; vomiting; spinal pain; numbness and tingling; burning and itching may precede spasm, which generally attacks hands first, then feet; muscles of other parts may become involved.

TREATMENT.

See Tetanus (page 376).

PLUMBISM.

(Lead poisoning. Peculiar to those who work in metals or mines, or from drinking water from lead pipes.)

SYMPTOMS.

Abdominal colic; constipation; wrist-drop; blue line on

the gums; impaired nutrition; anemia; cramps in the legs; delirium and convulsions; multiple neuritis.

No cure in Osteopathy.

DELIRIUM TREMENS.

(A mental derangement attended by extreme nervous agitation and hallucinations, caused by the excessive use of narcotics or alcoholic liquors.)

SYMPTOMS.

General disturbance of functions; fear; tremor and undecided muscular action; feeble but rapid action of heart; depression: all indicative of the most depressed condition of all the vital functions; anorexia; insomnia; irritability of the stomach; talkativeness; delusion; may be elevation of temperature, and albumin in the urine.

Not treated successfully by Osteopathy.

INSOMNIA.

(Inability to sleep.)

CAUSE.

May be due to mental or physical overwork, or strain, indigestion, tobacco, drugs, tea, coffee, constipation, or excitement.

TREATMENT.

1. Remove all the above causes.
2. Thorough and very careful General Treatment (page 306), to equalize the forces of the entire system.
3. Place the patient on the face; press gently between each of the transverse processes close to the spine, the entire length of the spinal column.
4. Hold the vaso-motor (page 253) three or four minutes.

5. Exercise an hour just before going to bed. After retiring, take several deep breaths very slowly.

Treatment should be given each day. A speedy recovery may be expected, provided the patient exercises due caution in avoiding the causes which lead up to the condition.

STAMMERING.

(A halting, defective utterance; especially the involuntary rapid repetition of a sound or syllable, attributable to nervousness.)

TREATMENT.

This is usually a habit, rather than a disease.

1. Encourage the patient; instruct him to stop the instant he begins to stammer. The patient should be instructed to fill the lungs with air before endeavoring to speak.

2. Instruct the patient to count after the operator, being particular to draw a full breath before each articulation.

In a very short time the patient will be able to count up to one hundred without difficulty.

3. It is always advisable to give a thorough General Treatment of the Neck to free the circulation to the head (page 393), being particular to manipulate the laryngeal muscles thoroughly.

4. Place the finger in the mouth, manipulating thoroughly the muscles under the tongue, and vibrate over the spheno-palatine, or Meckel's ganglion, one minute.

This entire treatment will occupy about one hour, and should be given each day, until a cure is effected.

IMPOTENCY.

(Partial or complete loss of sexual power).

CAUSE.

May be due to excesses, impairment of the blood-supply or nerve-wave to the parts involved, general debility, or syphilitic affection.

TREATMENT.

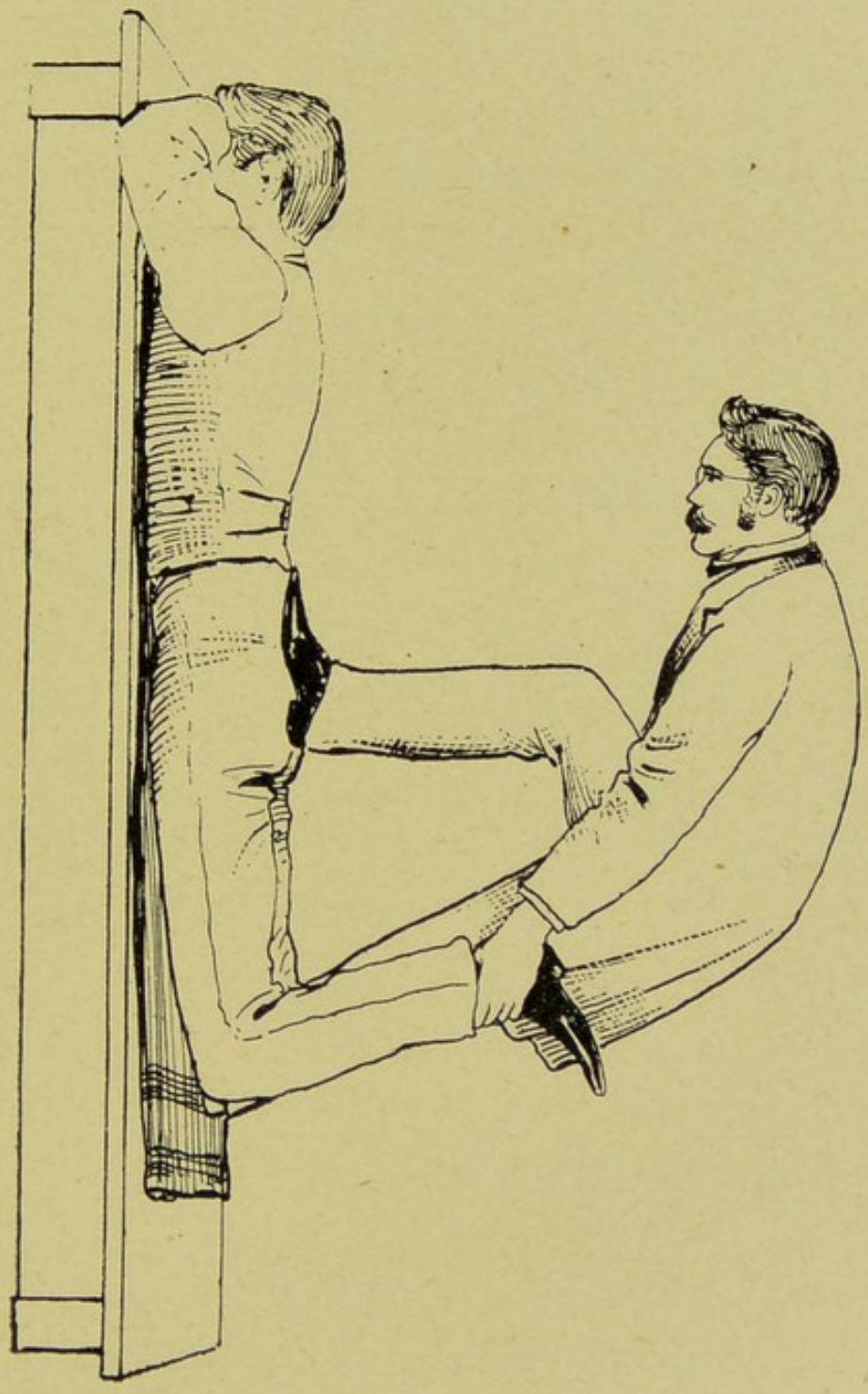
1. In case of general debility, thorough General Treatment (page 306).

2. In case of impairment of blood-supply and nerve-wave to the parts involved, place the patient on the face; with the thumbs on each side of the spine, beginning at the last dorsal, move the muscles upward and outward very deep through the lumbar and sacral regions.

3. Place both hands on the same side of the spine; beginning at the first lumbar, move the muscles slightly upward and strongly outward, permitting the muscles to slip under the hand, through the lumbar and sacral regions. Treat the opposite side in a similar manner.

4. With the patient lying in the same position, the operator removing his left shoe, places his left foot upon the sacrum, the right between the limbs of the patient; grasp the patient's ankles, and, while pressing hard with the foot upon the sacrum, draw the limbs slowly but strongly upward as high as the patient can stand without much pain (cut 45).

The spinal erection center lies in the lumbar region, and the motor nerves for the deep artery of the penis arise from the first to the third sacral nerves, while the motor nerves for the ischio-cavernosus and the deep transverse perineal muscles arise from the third to the fourth sacral nerves.



CUT 45.—Impotency.

The spinal ejaculation center lies at the fourth lumbar vertebra, and the motor fibers for the bulbo-cavernosus muscle, which ejects the semen from the bulb of the urethra, lie in the third and fourth sacral nerves.

The above treatment, therefore, stimulates these centers, and frees the action of these nerves, permitting them to perform their functions.

5. Place the patient on his side with the limbs flexed, dip the finger in vaseline, passing it carefully up the rectum; manipulate gently but thoroughly the prostate gland, which will usually be found enlarged, thus obstructing the escape of the semen from the ejaculatory ducts.

6. It is always advisable to manipulate thoroughly the penis and testicles, giving strong extension to these parts.

Treatment should be given every other day, and rarely fails to effect a cure in from four to twelve weeks.

Impotency caused by excesses and syphilitic affections is often benefited, and sometimes cured, by the above treatment.

Diseases of the Eye, Ear, Nose, and Throat.

EXPLANATORY.

In the treatment of diseases of the above named organs the osteopath is very successful, benefiting nearly all, and curing many chronic diseases that have baffled the skill of the medical fraternity.

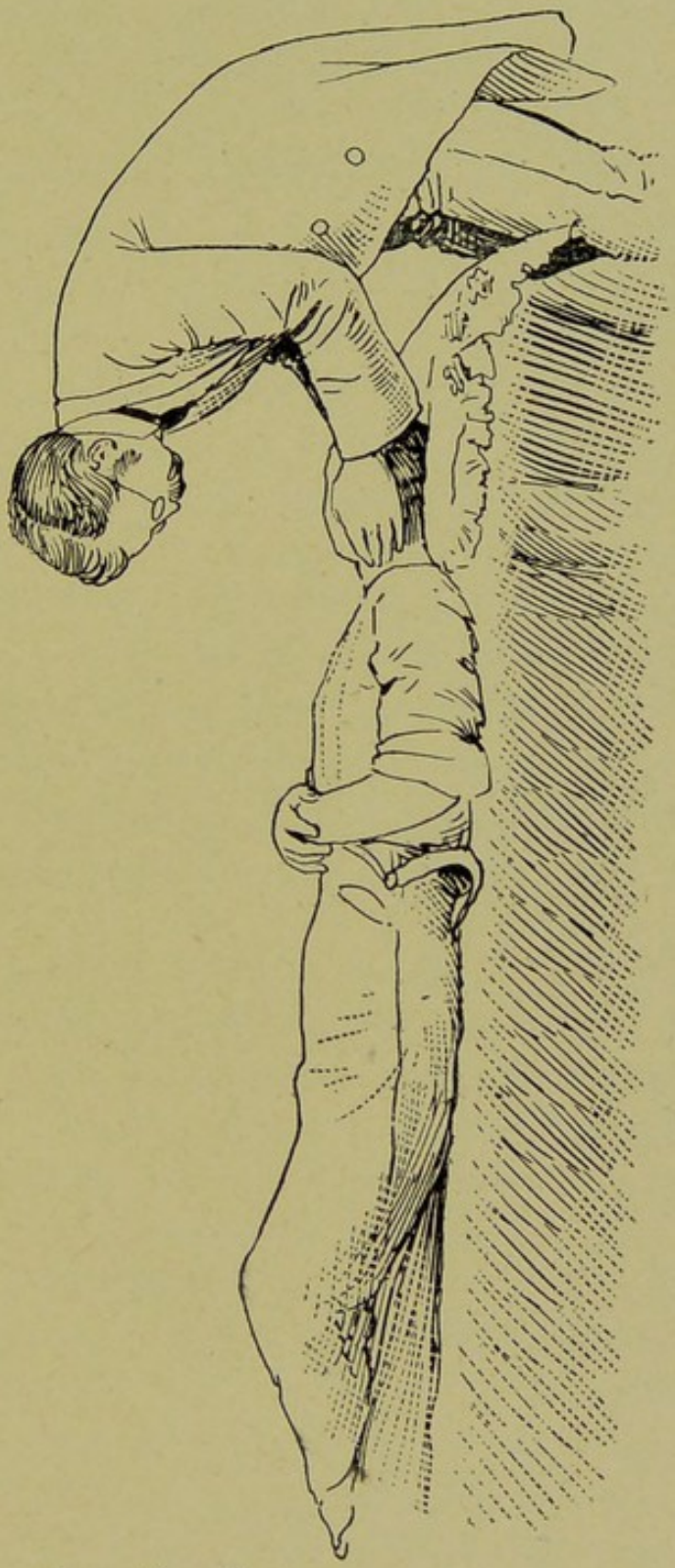
In nearly all diseases of the neck or head it is necessary to give a thorough General Treatment of the Neck, thereby freeing the circulation to and from the diseased parts.

In some rare instances the atlas will be found slipped or partially dislocated, in which case returning it to its normal position will usually cure the disease.

Diseases of the head are often aggravated by female troubles, diseases of the alimentary canal and other organs, which must be cured before we can hope to attain the desired end.

Granulated eyelids, dripping eyes, inflammation of the eyes, catarrh, polypus of the nose, catarrhal deafness and roaring in the head, enlarged tonsils, mumps, erysipelas of the face, and many other diseases of the head, are caused by a contracted condition of the muscles of the neck, obstructing the flow of the venous blood on its return journey to the heart. The circulation being thus interrupted, disease at the weakest point is the result. To remove the cause by

CUT 46.—Treatment of the Neck.



Cut 47.—Treatment of the Neck.

a General Treatment of the Neck is but the work of a moment, and never fails to effect a cure.

GENERAL TREATMENT OF THE NECK.

1. Place the patient on the back; with one hand under the chin and the other under the back of the head, pull gently, rotating the head in all directions, slowly but strongly, endeavoring to stretch all muscles of the neck (see cut 8).

2. Pull slowly on the head until the body moves.

3. Place the left hand on the top of patient's head, the right hand and arm beneath the head and neck, two fingers upon each side of the fourth dorsal vertebra, the ends of the fingers pressing hard, moving the muscles upward, at the same time press rather hard with the left hand, rotating the head from side to side, the fingers of the right hand working gradually upward, until the occipital is reached (cut 46).

4. Standing at patient's head, place the hands upon the sides of the neck, the fingers just back of the transverse processes of the upper cervicals; give gentle extension, rotating the head to the right, with the left hand moving the muscles forward and over the transverse processes upon the left side; rotate the head in the opposite direction, with the right hand moving the muscles forward and over the transverse processes upon the right side; move the hands downward to the next lower cervicals; rotate the head as before, and repeat until the last cervical is reached (cut 47).

5. Manipulate the muscles thoroughly and deep in the front of the neck; place the hand under the chin, drawing the head backward, thus giving these muscles extension; work as deeply as possible under the inferior maxillary.

The Eye.

TRACHOMA, OR GRANULAR LIDS (GRANULATED EYELIDS).

(A form of conjunctivitis, characterized by hard pustules or granular excrescences, round and gray, on the inner surface of the eyelids, with inflammation of the membrane.)

SYMPTOMS.

In this affection the conjunctival mucous membrane of the eye is raised into little projections, presenting a rough, irregular appearance. It is a consequence of long-continued or maltreated inflammation, and if not cured, it may in time occasion opacities of the cornea by the irritation it causes, followed by blindness.

TREATMENT.

1. General Treatment of the Neck (page 393).

2. Standing at the head of the table, with the index finger work gently, but as deeply as possible, moving the muscles and pressing under the edge of the bone entirely around the eye (cut 48); this frees the circulation and gives immediate relief.

3. Pinch the eyelids gently wherever granules are formed, thus starting a natural circulation.

We have never known this method to fail, even in the worst cases. One old gentleman at Lewistown, Missouri, was cured by us in this manner, after suffering fifty years, in two months' time. The usual time required for an ordinary case is from four to twelve weeks. Treatment should be given every other day.

CUT 48.—Inflammation of the Eye.

INFLAMMATION OF THE EYES.

(A morbid state, characterized in its simplest form by heat, redness, and pain in the eyes.)

SYMPTOMS.

Often comes on with a sensation of sand in the eyes. In some instances this complaint proceeds no farther, but at other times it is followed by heat, redness, and prickling, with darting pains.

CAUSE.

The cause is attributed by the medical profession to a stoppage of function in the microscopic elements of the involved tissues, or to changes in the blood-vessels and blood, and exudation of liquor sanguinis, with permeation of white blood-corpuscles, without rupture of the vessels, into the contiguous parts; or to altered nutrition of the tissues.

TREATMENT.

1. General Treatment of the Neck (page 393).

2. With the index finger work gently but deeply under the edge of the bones surrounding the eye, beginning deeply in the corner of the eye, and being particular to press against the bone, and not the eyeball (cut 48). Raise the finger entirely off the flesh as it is moved forward; in this manner the eye can be treated very thoroughly and deeply without giving pain, while if the operator endeavors to slide his finger over the flesh without removing it from the eye, the operation is painful, and the results not so pronounced.

It is always well to manipulate all the muscles in the immediate vicinity of the eye, thus freeing the circulation.

3. Place two fingers lightly over the eye and vibrate,

being careful not to move the lid, which should be kept steady on the eyeball, that the vibration may pass through. See Vibration (pages 36 and 67). The vibration should be felt very deeply.

This treatment will require about ten or fifteen minutes, and should be given each day until recovery.

We have cured many cases of inflammation of the eyes in which the patient was in such a condition that it was necessary for him to be led to our office, in a very few days, by this method of treatment.

Many cases, however, are more stubborn, requiring from six to eight weeks, and, in chronic cases, often three months' treatment is required to effect a cure.

A great many cases of inflammation of the eyes, and other diseases of the head, are due to a slip or partial dislocation of the atlas, which can be readily discovered by making a careful examination, and must be reduced before a cure can be expected. See Dislocation of the Atlas (page 360).

CATARRHAL CONJUNCTIVITIS.

(Inflammation of the conjunctiva.)

SYMPTOMS.

Conjunctiva red; eyelids stuck together on awakening, and feel heavy; itching and burning sensation.

TREATMENT.

See Inflammation of the Eyes (page 397).

PHLYCTENULAR CONJUNCTIVITIS.

(Inflammation of the conjunctiva, with small blisters under the epithelium, containing lymph.)

TREATMENT.

See Inflammation of the Eyes (page 397).

DIFFUSE PARENCHYMATOUS KERATITIS.

(Inflammation of the substance of the cornea.)

TREATMENT.

See Inflammation of the Eyes (page 397).

ACUTE PHLYCTENULAR KERATITIS.

(Inflammation of the cornea characterized by small vesicles on its surface.)

TREATMENT.

See Inflammation of the Eyes (page 397).

IRITIS.

(Inflammation of the iris.)

TREATMENT.

See Inflammation of the Eyes (page 397).

SCLERITIS.

(Inflammation of the sclera.)

TREATMENT.

See Inflammation of the Eyes (page 397).

EPISCLERITIS.

(Inflammation, with infiltration, and sero-fibrinous exudation in the outer layer of the sclerotic and upper layer of the conjunctiva—violet in color, hard and sensitive.)

TREATMENT.

See Trachoma (page 394).

CILIARY BLEPHARITIS.

(Inflammation of the edges of the eyelids—which are hyperemic and swollen; skin between the cilia covered with little scales; small ulcers in hair-follicles and sebaceous glands; inflammation of the Meibomian glands.)

TREATMENT.

See Trachoma (page 394).

DACRYOCYSTITIS.

(Inflammation of the lachrymal sac.)

TREATMENT.

See Inflammation of the Eyes (page 397).

TENONITIS.

(Inflammation of Tenon's Capsule.)

TREATMENT.

See Inflammation of the Eyes (page 397).

PTERYGIUM.

(Chronic thickening of the conjunctiva at the inner canthus, extending out over the eyeball. A film on the eye. Popularly called a web.)

TREATMENT.

1. See Inflammation of the Eyes (page 397).

2. Grasp the eyelid between the thumb and finger, and pinch gently and deep enough to reach the pterygium, which should be treated in this manner quite thoroughly, great care being exercised not to cause the patient unnecessary pain. This treatment starts the circulation and causes the pterygium to be taken up by absorption.

Treatment should be given every other day.

A cure may be expected in from four to twelve weeks.

LEUCOMA, OR ALBUGO.

(Dense opacity of the cornea; white spot in the eye.)

TREATMENT.

See Inflammation of the Eye (page 397), being particular to free the circulation thoroughly, immediately around and through the eye, by careful manipulation; also be particular to vibrate thoroughly.

PANNUS.

(Vascularization and opacity of the cornea.)

TREATMENT.

See Inflammation of the Eye (page 397), placing particular stress on the vibration and manipulation to free the circulation around and through the eye.

CATARACT.

(An affection of the sight, in which the vision is either partially or wholly prevented, by a permeation of opaque matter in the crystalline lens of the eye. Is of two kinds, *hard* and *soft*. Hard is most common in old people. Soft is most frequently found in children, especially among those who have been born with this condition, when it is called Congenital Cataract, but may occur at any age. When it is the result of a wound of the lens, it is called Traumatic Cataract. In children it presents a bluish-white appearance like milk and water in the pupil, and is easily recognizable; the color is much darker and less distinct in aged persons, and more difficult to see, but the opacity of the lens can be detected by careful examination.)

TREATMENT.

See Inflammation of the Eyes (page 397).

In treating this disease the osteopath is unusually successful, curing nearly all cases that are taken in any reasonable time.

Treatment should be given every other day, until a cure is effected, which will require from four weeks to six months.

Cataracts have been removed by this treatment, after the patient had become almost entirely blind.

STRABISMUS, OR CROSSED EYES.

(A condition in which the visual axes of the eyes are crossed, transfixing the object.)

This affection is not successfully treated by osteopaths.

MYOPIA, MYOPY, OR NEAR-SIGHTEDNESS (ALSO SHORT-SIGHTEDNESS; PURBLINDNESS).

(Defect in vision so that objects can be clearly seen only when very close to the eye, generally produced by too much convexity of the cornea or crystalline lens, causing the focus of parallel rays to be in front of the retina instead of on the cornea.)

TREATMENT.

1. See Inflammation of the Eye (page 397), omitting vibration.

2. With the eye closed, place the finger immediatetly over the cornea, pressing gently, gradually increasing the strength used, for one minute.

Treatment should be given every other day.

Many cases have been benefited by this method.

DRIPPING EYES.

Dripping eyes are usually accompanied with a catarrhal difficulty in the lachrymal duct, which conveys all watery substances from the eye to the interior of the nose. Its

obstruction causes the overflow at the eye; we must therefore cure the catarrh, and the eyes will take care of themselves.

TREATMENT.

1. Give the General Treatment for the Neck (page 393).
2. Free all the muscles around the eyes as in Inflammation of the Eyes (cut 48).
3. Beginning deep in the corner of the eye, with the thumb on one side of the nose, the index finger on the other, move the flesh and muscles upward and downward its entire length.

This treatment is almost infallible, cases of twenty years' standing having been cured by us in one month's time. Treatment should be given every other day.

The Ear.

ACUTE CATARRHAL OTITIS MEDIA, OR EARACHE.

(Catarrhal inflammation of the middle ear. Usually due to extension of catarrhal inflammation of the naso-pharynx to the tympanic cavity by way of the Eustachian tube.)

SYMPTOMS.

Intense aching pain; membrana tympani red.

TREATMENT.

1. Thorough General Treatment of the Neck (page 393).
2. Manipulate very thoroughly and deep all the muscles around the ear.

3. With the index finger work as deeply into the ear as possible without giving pain, endeavoring to move the muscles in every possible direction.

4. Grasp the inferior portion of the lobule between the thumb and finger, and pull gently but quite strongly, slightly downward and backward, thus stretching the muscles and freeing the circulation very deeply.

5. Place the fingers lightly over the Gasserian ganglion (cut 49), and vibrate (pages 36 and 67) gently one minute.

6. Patient should inhale deeply, and, while holding the nose and mouth, endeavor to force the air through the ears, thus springing the drums and starting the circulation.

It is also advisable in stubborn cases to make a small paper tube; place one end in the patient's ear, the other in the mouth of the operator, and blow strongly a few seconds.

In almost all diseases of the ear the osteopath is very successful, curing many cases instantly and many others in a few treatments. The usual time required in chronic cases, however, is from one to three months. These results are reached almost entirely through the circulation, and consequently nearly all diseases of the ear are treated by the osteopath in a similar manner.

Occasionally, in diseases of the ear, a slight slip or dislocation of the atlas is found, in which case it is necessary to reduce the dislocation, when an immediate change for the better may be expected. See Dislocation of the Atlas (page 360).

Treatment in acute cases in all diseases of the ear should be given each day and will occupy about fifteen or twenty minutes. Chronic cases will require the same length of time, and should be treated every other day.

CHRONIC CATARRHAL OTITIS MEDIA.

(May follow an acute attack.)

SYMPTOMS.

Ringing in the ears; deafness; tendency to breathe through the mouth, if patient is a child.

TREATMENT.

See Acute Catarrhal Otitis Media (page 403).

AURAL VERTIGO, OR MENIERE'S DISEASE.

(Feeling of rotary movements, referred to the patient or to surrounding objects, with loss of equilibrium, but conscious.)

SYMPTOMS.

Ringing in ears; pallor; nausea; clammy sweat; vomiting; jerking of eyeballs; paroxysms sometimes throwing the patient to the ground.

TREATMENT.

1. General Treatment of the Neck (page 393).

2. Place the patient upon a stool; the operator placing one knee between the scapulæ, about the third dorsal, raise the arms slowly but strongly above the head, pressing hard with the knee as the arms are lowered with a backward motion (cut 5).

This disease is often occasioned by a slight slip or dislocation of the atlas. See Dislocation of the Atlas (page 360).

DEAFNESS.

(A lack or deficiency in the sense of hearing; a whole or partial inability to distinguish sound.)

CAUSE.

May be due to pressure of a tumor, inflammatory exudation at the base of the brain, disease of the mastoid process

of the temporal bone, or disease of the auditory nucleus or peripheral nerves.

TREATMENT.

See Acute Catarrhal Otitis Media (page 403).

CATARRHAL DEAFNESS AND ROARING IN THE HEAD.

TREATMENT.

Catarrhal deafness can be always benefited, and usually cured, by the Catarrhal (Coryza) Treatment (page 407), after which the patient should inhale deeply, and, while holding the nose and mouth, endeavor to force the air through the drums of the ears, thus springing the drums and starting the circulation.

OTOMYCES, OR OTOMYCOSIS.

(Fungous growth in the ear.)

TREATMENT.

See Acute Catarrhal Otitis Media (page 403).

OTONCUS.

(An aural tumor.)

TREATMENT.

See Acute Catarrhal Otitis Media (page 403).

OTOPYOSIS.

(Discharge of pus from the ear.)

TREATMENT.

See Acute Catarrhal Otitis Media (page 403).

OTORRHAGIA.

(Discharge of blood from the ear.)

TREATMENT.

See Acute Catarrhal Otitis Media (page 403).

The Nose.

CORYZA, ACUTE RHINITIS, ACUTE NASAL CATARRH, OR COLD IN THE HEAD.

(Inflammation of the mucous membrane of the nose and connecting sinuses.)

SYMPTOMS.

This disease sometimes prevails epidemically, and it is to this form medical writers apply the term "*influenza*," while cases that occur incidentally are called *catarrh*, or *cold*. When it prevails epidemically, it undoubtedly depends upon the state of the atmosphere, though in some cases it has been attributed to contagion.

In general, it comes on with a dull pain or sense of weight in the forehead, sometimes preceded by a slight chill, redness of the eyes, and fullness and heat in the nostrils, which is soon followed by a thin acrid fluid from the nose, together with soreness in the windpipe, hoarseness, frequent sneezing, dry cough, loss of appetite, and general lassitude. Toward evening the pulse becomes considerably quickened and a slight fever arises.

TREATMENT.

1. General Treatment of the Neck (page 393).

2. Beginning deep in the corner of the eyes, move the muscles upward and downward, with as hard a pressure as patient can stand, the entire length of the nose.

It is also well to manipulate thoroughly the muscles around, over, and under the eyes.

3. Beginning at the nose, follow the superior maxillary, manipulating very deeply its entire length.

4. Place the finger-tips over the Gasserian ganglion (cut 49), and vibrate (pages 36 and 67) one minute; also vibrate an equal length of time over the infra-orbital foramen.

Catarrh in its various forms is often caused by a slip or partial dislocation of the atlas. In such instances to reduce the dislocation almost invariably cures the disease. See Dislocation of the Atlas (page 360).

5. Place one hand on the back of the head, the other on the forehead, and press very hard, moving the muscles of the forehead in all directions, especially those immediately over the eye.

This treatment, in acute cases, should be given each day, and will occupy about fifteen or twenty minutes; in chronic cases every other day is sufficient. Immediate relief may usually be expected, and a cure in from one to three months.

CHRONIC HYPERTROPHIC RHINITIS.

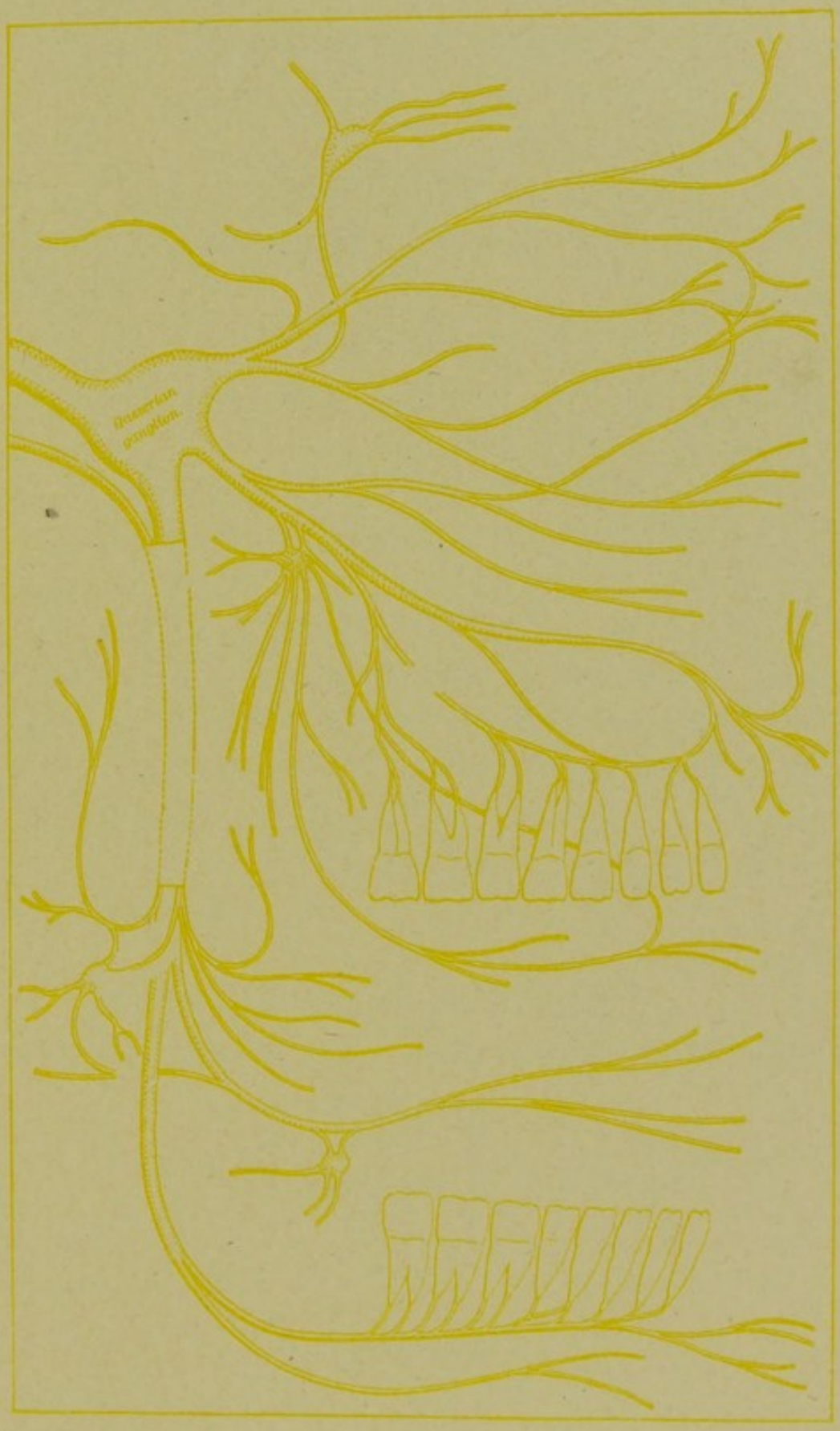
(Hypertrophy of the turbinated bones. May follow acute attacks of coryza.)

SYMPTOMS.

Hoarseness; fullness in nose; nasal sounds; snoring; discharges of muco-pus in the pharynx; hearing may be impaired, also smell and taste; often accompanied by irritating cough.

TREATMENT.

While this disease can be greatly benefited by Coryza Treatment (page 407), we cannot hope to cure the hypertrophy of the turbinated bones.



Cut 49.—Gasserian Ganglion.

DIPHTHERITIC RHINITIS.

(May accompany acute form.)

SYMPTOMS.

False membrane in nose; discharges acrid; excoriation of upper lip.

TREATMENT.

See Coryza (page 407).

CHRONIC POST-NASAL RHINITIS.

(Extension of catarrh into pharynx.)

SYMPTOMS.

Tingling and sense of soreness at root of nose; pain in soft palate and posterior nares; frontal headache; flow of thick secretion into pharynx; impaired taste, smell, and hearing.

TREATMENT.

See Coryza (page 407).

RHINITIS SYCCA, OR DRY CATARRH.

(Chronic form of nasal catarrh, with dryness of the mucous membrane.)

SYMPTOMS.

Tingling and dryness in the nostrils; faint musty odor; no discharge.

TREATMENT.

See Coryza (page 407).

ATROPHIC RHINITIS, OR OZENA.

(A chronic form of nasal catarrh, with atrophy of the mucous membrane and ulceration of the nasal cavities.)

SYMPTOMS.

Frontal headache; exceedingly fetid discharge; hawking and spitting of brownish-green crusts, often blood-tinged.

TREATMENT.

Can usually be benefited by Coryza Treatment (page 407), but cannot be cured if of a syphilitic nature.

RHINOLITH, OR NASAL CALCULUS.

(Stone in the nose.)

SYMPTOMS.

May be fixed or movable, gray or greenish-brown in color, hard and rough; sometimes produces pain and reflex neuroses.

TREATMENT.

This disease can be greatly benefited by the Coryza Treatment (page 407), but an operation may be necessary to remove the stone.

NASAL POLYPI (POLYPUS OF THE NOSE).

(Pedunculated tumor in the nose.)

SYMPTOMS.

Snoring and oral breathing; aggravated by damp weather; sneezing; and epistaxis.

TREATMENT.

See Coryza (page 407).

NASAL TUMORS.

(May be Fibroma, Sarcoma, Osteoma, Enchondroma, or Carcinoma.)

SYMPTOMS.

Tumor painful and bleeds easily, causing fetid discharges; cervical glands swollen; stenosis and deformity are common, also epistaxis.

TREATMENT.

Same as Coryza Treatment (page 407).

NASAL ULCERS.

(May be tuberculous or syphilitic.)

SYMPTOMS.

Stench of breath; stenosis; loss of smell; insomnia; emaciation. If tuberculous, bleeds easily

Not treated successfully by Osteopathy.

IDIOPATHIC RHINORRHEA.

(Spontaneous mucous discharge from the nose. Probably due to functional derangement of the fifth cranial nerve.)

SYMPTOMS.

Discharge of yellowish water, which may cease as suddenly as it develops.

TREATMENT.

See Coryza (page 407).

ANTRUM ABSCESS.

(Abscess of the Antrum of Highmore.)

SYMPTOMS.

Characteristic odor; putrid taste; nausea; anorexia; pain at root of nose; discharge of pus on leaning head forward; usually bad tooth in upper jaw.

TREATMENT.

See Coryza (page 407).

EPISTAXIS, OR NOSE-BLEED.

(Hemorrhage of the nose.)

CAUSE.

May be caused by irritation, traumatism, or be due to constitutional conditions.

SYMPTOMS.

May be none previous to its approach; may be fullness about head; headache; noise in ears; and vertigo.

TREATMENT.

The patient, in a sitting posture, should raise his arms as far as possible, at the same time placing one thumb upon each side of the nose, pressing quite strongly; the operator, standing in front, places the hands upon the sides of patient's neck, the fingers meeting over the three upper cervicals; tip the head strongly backward, pressing hard with the fingers at the same instant, and hold in this position until the hemorrhage ceases.

The Throat.

ACUTE LARYNGITIS, OR LARYNGEAL CATARRH.

(Inflammation of the larynx, usually due to exposure or cold.)

SYMPTOMS.

Cough; hoarseness; fullness and dryness in the larynx; dyspnea at times; painful deglutition; and mucous expectoration.

TREATMENT.

1. See General Treatment of the Neck (page 393).

2. Place the hand lightly upon the larynx, and vibrate (pages 36 and 67) gently two minutes.

3. Place the fingers of the left hand upon the angle of the second rib on the right side; draw patient's arm slowly above the head as patient inhales, pressing hard upon the angle of the rib as the arm is lowered with a backward motion; treat each rib in this manner until the lower border of the scapula is reached. Treat the opposite side in a similar manner.

Treatment will occupy about fifteen minutes, and should be given each day until recovery.

Treatment must be given in a gentle, careful manner. Patient should feel decidedly better after the first treatment.

DIPHTHERITIC LARYNGITIS.

(Acute laryngitis with accumulation of false membrane in the fauces and nares.)

SYMPTOMS.

Similar to membranous croup; cervical glands enlarged; little or no fever; albuminuria.

TREATMENT.

1. See General Treatment of the Neck (page 393).

2. Place the hand on the larynx, and vibrate (pages 36 and 67) gently two minutes.

3. Place the finger in patient's mouth, and manipulate carefully, but deep, the muscles in the immediate region of the fauces and nares.

Treatment should be given each day, and immediate improvement can be expected.

CHRONIC LARYNGITIS.

(May result from repeated attacks of acute form. More common after middle life, and in males.)

SYMPTOMS.

Dryness and tickling in throat; hoarseness; irritable cough; thickening of laryngeal structure, covered by a thick secretion.

TREATMENT.

1. See Acute Laryngitis (page 415).

2. Vibrate (pages 36 and 67) two minutes, with the hand pressed lightly over the bronchi.

In chronic cases this treatment usually gives immediate relief, but requires about two or three months to effect a cure. Treatment every other day.

LARYNGEAL EDEMA.

(Dropsy of the larynx. May accompany acute or chronic laryngitis, Bright's disease, erysipelas, diphtheria, and may be acute or chronic.)

SYMPTOMS.

Voice husky and suppressed; intense dyspnea and cough; symptoms of obstruction; respiration hurried and spasmodic; pulse small, rapid, and irregular; eyes prominent; face flushed and anxious.

TREATMENT.

1. General Treatment of the Neck (page 393).

2. Place the patient on the side; beginning at the upper cervicals, move the muscles upward and outward the entire length of the spine, being very thorough in the lumbar region.

3. Flex the limbs strongly against the abdomen, giving strong abduction of the knee as they are extended with a light jerk.

4. Vibrate (pages 36 and 67) one minute each of the following organs: lungs, stomach, liver, and kidneys.

5. Place the left hand beneath the patient's shoulders, the fingers upon the angle of the second rib on the right side; draw the right arm strongly but slowly above the head as the patient inhales, pressing hard upon the rib as the arm is lowered with a backward motion; treat each rib in a similar manner until the lower border of the scapula is reached. Repeat the operation on the opposite side.

Treatment should be given each day until recovery.

TUBERCULOUS LARYNGITIS.

(May be acute or chronic.)

SYMPTOMS.

Painful deglutition; dysphonia; pain in respiration; at times thickening of the epiglottis; ulceration; tubercle bacilli may be detected in the secretions.

Not treated successfully by Osteopathy.

SUBMUCOUS LARYNGITIS.

(Inflammation extending to the submucous cellular tissue of the larynx. May be acute or chronic.)

SYMPTOMS.

Same as laryngitis, with stenosis.

TREATMENT.

1. See Acute Laryngitis (page 415).

2. See Treatment to Equalize the Circulation (page 114).

PHLEGMONOUS LARYNGITIS, OR PERICHONDRITIS.

(Suppurative inflammation of the cartilages of the larynx.)

SYMPTOMS.

Cough and hoarseness; pain increased by moving the larynx, as in speaking or swallowing; discharge of pus; necrosed cartilage; if arytenoid cartilage is involved, pain extends towards the ears; if cricoid, pain on swallowing solid food, and dyspnea; if thyroid, abscess may be seen in the larynx.

TREATMENT.

1. General Treatment of the Neck (page 393).

2. Thorough vibration (pages 36 and 67) of the larynx two minutes.

3. Place the patient on a stool; with the knee of the operator between the scapulæ about the third dorsal, draw the patient's arms slowly and strongly above the head as the lungs are filled to their fullest capacity; lower the arms with a backward motion, pressing hard at the same instant with the knee.

Treatment should be given each day.

LARYNGISMUS STRIDULUS, OR LARYNGOSPASM.

(Neurosis of the larynx, with spasmodic contraction of the glottis; usually in poorly nourished children.)

SYMPTOMS.

Ringing croupy cough; dyspnea; face at first pallid, becoming livid; eyes stare; head drawn backward; spine arched; cold perspiration on forehead; convulsions may occur.

TREATMENT.

1. General Treatment of the Neck (page 393).
2. Thorough General Treatment (page 306).

PSEUDO-MEMBRANOUS LARYNGITIS, OR MEMBRANOUS CROUP.

(Inflammation of the larynx, with formation of false membrane.)

SYMPTOMS.

Fretfulness, feverishness, cold in the head, and slight hoarseness, increasing towards evening and in the early night. Sometimes, however, without a single warning symptom, the child startles us in the night with a hoarse, ringing cough, which cannot be so described as to be recognized, but which no one who has ever heard it can fail to know again. There is a sense of suffocation, a hurried, hoarse, and hissing breathing, as if the air were drawn into the lungs and expelled through too small an opening in some instrument, which is the fact, for such an instrument is the accumulated phlegm in the larynx. When there is much fever and inflammation, the tendency to the formation of false membrane is very slight; whereas, in cases that seem mild at the beginning the disease often passes to the membranous stage unsuspected.

Peculiar ringing cough, becoming muffled; great difficulty in breathing; suffocating paroxysms; protrusion of the eyeballs; extreme restlessness and agitation; nostrils dilated; flushed cheeks; grasping at support; clutching at neck; flakes of membrane; casts of trachea, which may be expectorated; elevation of temperature.

TREATMENT.

1. Thorough General Treatment of the Neck (page 393).

2. Place the finger in the mouth, and gently manipulate the false membrane as thoroughly as possible.

3. Draw the arms strongly above the head, pressing upon the second dorsal vertebra as they are lowered with a backward motion.

4. Place the hand upon the neck and bronchi, and vibrate (pages 36 and 67) gently two minutes.

This treatment is exceedingly successful in all cases of membranous croup, relaxing, as it does, the muscles, freeing the circulation, and causing the false membrane to be ejected.

SPASMODIC CROUP, OR CATARRHAL CROUP.

(Catarrhal laryngitis, with spasms of the larynx.)

SYMPTOMS.

Hoarsness and cough in the evening, cough becoming ringing and metallic toward midnight, with paroxysms of suffocation; may occur three or four nights in succession.

TREATMENT.

See Membranous Croup (page 419), omitting No. 2.

LARYNGEAL TUMOR.

(May be malignant or benign.)

SYMPTOMS.

Dysphonia or aphonia; dyspnea; may be irritating cough; and cachexia.

TREATMENT.

1. See General Treatment of the Neck (page 393), being very thorough in the region of the tumor.

2. Place the hand over tumor, and vibrate (pages 36 and 67) gently two minutes.

3. Seat the patient upon a stool; the operator places his knee between the scapulæ at about the second or third dorsal; draw the arms strongly above the head as the patient inhales, pressing hard with the knee as the arms are lowered with a backward motion.

Treatment should be given each day.

This disease is often benefited by the above treatment.

LARYNGEAL SYPHILIS.

(Syphilitic affection of the larynx.)

SYMPTOMS.

Hoarseness caused by catarrh or ulcerations; articulation husky; cough; difficult deglutition; whitish-gray mucous patches; round prominences on either side of the glottis; deep circular ulcers overlaid with whitish-yellow deposits; no pain.

TREATMENT.

See Laryngeal Tumor (page 420), giving thorough vibration (pages 36 and 67) over larynx and trachea.

This disease is often benefited by the above treatment.

ACUTE PHARYNGITIS, OR SORE THROAT.

(Inflammation of the pharynx. Usually follows cold or exposure.)

SYMPTOMS.

Painful deglutition; sense of dryness and constant desire to hawk and cough; may involve the tonsils; may be slight deafness; stiffness of the neck and enlargement of the cervical glands; chilliness and fever; mucous membrane congested, dry, and glistening; uvula may be swollen.

TREATMENT.

See Acute Laryngeal (page 415).

CHRONIC PHARYNGITIS.

(Follows acute attacks, and may be accompanied by nasal catarrh.)

SYMPTOMS.

Relaxation of the mucous membrane, with dilatation of the veins; membrane, dry, glistening, and covered with a thick secretion.

TREATMENT.

See Acute Laryngitis (page 415).

Treatment should be given every other day. Immediate benefit may be expected, and a continuation of the treatment will usually effect a cure.

GANGRENOUS PHARYNGITIS, OR PUTRID SORE THROAT.

(Mortification of the pharyngeal tissues. May follow ordinary pharyngitis.)

SYMPTOMS.

Mucous membrane of the tonsils inflamed, also walls of the pharynx, soon becoming covered with gangrenous patches; may extend to the esophagus, larynx and nares; may be erosion of blood-vessels, causing fatal hemorrhage.

TREATMENT.

This disease, if taken in its early stages, is very easily cured by osteopathic treatment.

See General Treatment of the Neck (page 393).

Treatment should be given each day.

RETRO-PHARYNGEAL ABSCESS.

(Suppuration in the retro-pharyngeal tissues. More common in children.)

SYMPTOMS.

Enlargement of cervical glands; stiffness of the neck; inability to swallow; high fever; noisy breathing; suffocating paroxysms; little or no cough; head often drawn back.

TREATMENT.

1. General Treatment of the Neck (page 393).
2. Vibrate (pages 36 and 67) one minute over abscess.
3. Place the patient on the side; beginning at the upper cervicals, move the muscles upward and outward the entire length of the spinal column, gently but deep. Treat the opposite side in a similar manner.
4. Place the left hand under the right shoulder, the fingers upon the angle of the second rib; draw the right arm slowly but strongly above the head as the patient inhales, and lower the arm with a backward motion, pressing hard upon the angle of the rib. Treat the third, fourth, and fifth rib in a similar manner. Repeat the operation upon the opposite side.
5. Place the hands upon the sides of the neck, finger-tips almost meeting over the spines of the upper cervicals; tip the head backward, and press hard with the fingers three or four minutes (see vaso-motor, page 253).

Treatment should be given each day.

TRACHITIS.

(Inflammation of the trachea. May come from larynx or bronchi by extension.)

TREATMENT.

General Treatment of the Neck (page 393).

TRACHELAGRA.

(Gout in the neck.)

TREATMENT.

General Treatment of the Neck (page 393).

TRACHELISMUS.

(Spasms of the cervical muscles.)

TREATMENT.

General Treatment of the Neck (page 393).

TRACHEAL STENOSIS.

(Contraction of the trachea. May be due to pressure caused by enlargement of glands.)

SYMPTOMS.

Peculiar whistling, wheezing sound; voice weak and muffled; difficult breathing; inspiration obstructed; expiration easy.

TREATMENT.

1. See General Treatment of the Neck (page 393).
2. Thorough vibration (pages 36 and 67) of the trachea.

ACUTE ESOPHAGITIS.

(Inflammation of the esophagus, due to traumatism.)

SYMPTOMS.

Raw, burning pain, aggravated by speaking; expectoration of a frothy, glairy mucus, with blood and shreds of membrane.

TREATMENT.

1. Place the patient on the back; manipulate carefully the muscles in the region of the traumatism. It is also

well to manipulate all the muscles in the front and sides of the neck.

2. Gentle vibration (pages 36 and 67) of the esophagus.

CHRONIC ESOPHAGITIS.

(May follow an acute attack.)

SYMPTOMS.

Painful deglutition; liquids readily swallowed, but solids with great difficulty; expectoration of a viscid mucus.

TREATMENT.

See Acute Esophagitis (page 424).

Patient always derives benefit from this treatment; a cure can hardly be expected.

ESOPHAGEAL ABSCESS.

(May develop from acute esophagitis.)

SYMPTOMS.

Development slow; pain increased on movement of the neck; rigors and fever.

TREATMENT.

1. Manipulate very gently and carefully the muscles of the neck, being very particular to give no unnecessary pain.

2. Give gentle extension and rotation of the neck.

3. Place the hand over the abscess, and vibrate (pages 36 and 67) gently one minute.

ESOPHAGEAL STRICTURE.

(Contraction of the esophagus, due to the healing of an ulcer.)

SYMPTOMS.

Difficult deglutition; impaired nutrition; anemia.

Not treated successfully by Osteopathy.

ESOPHAGEAL DILATATION.

(Expansion of the esophagus.)

SYMPTOMS.

Regurgitation of food, which is either alkaline or neutral; sense of distension, with heat and burning; fetid breath.

Not treated successfully by Osteopathy.

FOLLICULAR TONSILLITIS.

(Inflammation of the lining membrane of the lacunæ, or ducts of the tonsils.)

SYMPTOMS.

Frontal headache; severe pain in back and limbs; pain in throat, and difficult deglutition; chilly sensation and high temperature; tonsils swollen and throat dry and burning; yellowish-white exudation on the crypts; voice becomes nasal; pulse rapid and tongue coated.

TREATMENT.

1. Thorough General Treatment of the Neck (page 393), being particular to manipulate the tonsils gently but thoroughly.

2. Place the patient on the side; beginning at the upper cervicals, move the muscles upward and outward the

entire length of the spinal column gently, but very deep. Treat the opposite side in a similar manner.

3. Place the hands upon the sides of the neck, the finger-tips almost meeting over the upper cervicals; tip the head backward, pressing gently for three or four minutes upon the vaso-motor (page 253).

Treatment should be given each day.

PARENCHYMATOUS TONSILLITIS, AMYGDALITIS, OR QUINSY.

(Inflammation of the substance of the tonsils. May be primary or secondary.)

SYMPTOMS.

Usually only one tonsil affected, the other may follow; tonsils swollen; voice nasal; difficult deglutition; severe pain, which may extend to the ear; tenderness beneath the angle of the jaw on pressure; chill; high fever; increased secretion of saliva.

TREATMENT.

See Follicular Tonsillitis (page 426).

CHRONIC TONSILLITIS, OR ENLARGED TONSILS.

(May be due to repeated attacks of acute form.)

SYMPTOMS.

Tonsils enlarged and irregular in shape; may be snoring and defective hearing.

TREATMENT.

1. Thorough General Treatment of the Neck (page 393), kneading and manipulating the enlarged tonsil in a very thorough manner.

2. Place the fingers upon the enlarged tonsil, and give thorough vibration (pages 36 and 67) two minutes.

HERPETIC TONSILLITIS, OR HERPETIC SORE THROAT.

(Inflammation of the mucous membrane of the tonsils, palate, uvula, and pharynx, characterized by eruption of the herpetic vesicles.)

SYMPTOMS.

May be chill, followed by fever; pain in deglutition; throat dry and hot; eruptions rupture, leaving circular ulcers, which coalesce and become covered with fibrinous exudation.

TREATMENT.

1. Thorough General Treatment of the Neck (page 393), manipulating very thoroughly the tonsils, palate, uvula, and pharynx.

2. In case of fever, hold the vaso-motor (page 253) three or four minutes.

GLOSSITIS.

(Inflammation of the tongue. May be acute or chronic.)

SYMPTOMS.

Tongue swollen, red, and painful; impairment of speech and deglutition.

TREATMENT.

1. Thorough General Treatment of the Neck (page 393),

2. Manipulate the tongue, giving it strong extension, and endeavoring, in any possible manner, to free its circulation.

GLOSSANTHRAX.

(Malignant pustule upon the tongue.)

SYMPTOMS.

Same as anthrax in general; appearance of crust of dead tissue on the tongue.

Not treated by osteopaths.

GLOSSOPHYTIA, NIGRITIES, OR BLACK TONGUE.

(Dark discoloration of the tongue from epithelium accumulation.)

SYMPTOMS.

Papillæ discolored, thickened, and elongated; appearance of hairy growth on the tongue; scaling takes place.

Not treated by osteopaths.

LEUKOPLAKIA LINGUALIS.

(Peculiar chronic affection of the tongue, characterized by horny whitish patches on the surface. May affect the buccal mucous membrane.)

Not treated by osteopaths.

GLOSSAL ULCER.

(May be Simple, Dyspeptic, Aphthous, or Traumatic.)

Simple ulcer forms in center of the tongue or inflamed area, and is smooth, red, and glazed.

Dyspeptic or **catarrhal ulcer** occurs on the tip or dorsum near the tip, and is small, superficial, red, and irritable.

Aphthous ulcer has same symptoms as when occuring in the mouth. Found both in adults and children.

Traumatic ulcer may occur from bad teeth. When active, may be mistaken for syphilitic, tuberculous, or cancerous ulcer.

TREATMENT.

1. General Treatment of the Neck (page 393), being particularly thorough in the front and sides, working as deeply as possible under the inferior maxillary.

2. Thorough manipulation of the tongue, working as deeply around the root as possible, and giving the tongue thorough extension.

Treatment should be given each day.

CATARRHAL STOMATITIS.

(Catarrhal inflammation of the mucous membrane of the mouth. May be due to extension from adjacent disease.)

SYMPTOMS.

Redness and swelling; increased secretion and heat; taste impaired and breath fetid.

TREATMENT.

1. General Treatment of the Neck (page 393), being very thorough in the front and sides, working very deeply under the inferior maxillary.

2. Place the index finger in patient's mouth, and manipulate the mucous membrane carefully but thoroughly.

Treatment should be given each day.

APHTHOUS STOMATITIS, OR APHTHAE.

(Local area of inflammation in the mouth, followed by ulceration.)

SYMPTOMS.

Yellowish-white spots dotted over the mucous membrane inside the cheeks and roof of mouth along the tongue and gum.

TREATMENT.

See Catarrhal Stomatitis (page 430).

ULCERATIVE STOMATITIS, OR NOMA.

(Another form of ulceration attending inflammation of the mouth. May accompany chronic diarrhea, and is peculiar to unsanitary conditions.)

SYMPTOMS.

Inflammation more pronounced on the gums, which are swollen, red, and covered with ulcers, on which appears a yellowish material; flow of saliva is increased, and acid in reaction.

TREATMENT.

See Catarrhal Stomatitis (page 430).

GANGRENOUS STOMATITIS, OR CANCRUM ORIS.

(Gangrenous inflammation of the gums, mucous membrane, and deep tissues of the cheeks. Peculiar to children.)

SYMPTOMS.

At first small, dark, red, hard spot on the cheek, becoming purple; cheek becomes swollen, tense, and brawny; blister forms, which soon breaks, with rapid ulceration; ulcer dark, and soon perforates the cheek; characteristic odor.

Not treated successfully by Osteopathy.

PARASITIC STOMATITIS, OR THRUSH.

(Mycotic inflammation of the mucous membrane of the mouth and throat. Peculiar to children.)

SYMPTOMS.

Raised white patches, appearing like small curds of milk; secretion of mouth acid in reaction.

TREATMENT.

1. General Treatment of the Neck (page 393).

2. Careful manipulation of the mucous membrane of the mouth and throat with the index finger.

STOMATITIS MATERNA, OR NURSING SORE MOUTH.

(Painful, solitary ulcers in mucous membrane of lips and cheeks of nursing-women.)

TREATMENT.

1. Thorough General Treatment of the Neck (page 393). working as deeply as possible under the inferior maxillary.

2. With the index finger manipulate thoroughly the mucous membrane of the mouth, being particularly thorough in the region of the ulcer.

Treatment should be given every day; and never fails to give immediate relief, and continuation of the treatment a speedy cure.

MERCURIAL STOMATITIS. PTYALISM, OR SALIVATION.

(Due to medicinal ingestion of large quantities of mercury, affecting the gums and salivary glands.)

SYMPTOMS.

The gums swollen, red, sore, and bleed easily; teeth become loosened; breath fetid; pain in mastication; tongue may be swollen.

TREATMENT.

Is often benefited by thorough General Treatment of the Neck (page 393).

Diseases of the Skin.

ECZEMA (SCALD-HEAD, SALT-RHEUM, MOIST OR RUNNING TETTER).

(Inflammation and scaling of the skin, with exudation of lymph from small vesicles, followed by scaling off of the scarf-skin.)

TREATMENT.

This disease is caused by an obstruction to the lymphatic circulation, and is easily cured, except in rare instances, by thorough manipulation of the entire body, to free the circulation, being very thorough in the immediate region of the disease.

The extremities, upon which the eczema makes its appearance, should be given strong flexion, abduction, adduction, rotation, and extension, and the diseased portion kneaded gently, but as thoroughly as conditions will permit.

See Treatment to Equalize the Circulation (page 114).

Treatment should be given each day, until recovery.

RASH.

(Exanthematous eruptions of the skin.)

TREATMENT.

See Eczema (above).

BOILS.

(Localized abscesses of the skin; a purulent tumor seated in the skin or subcutaneous tissue, painful and highly inflammatory, characterized by the formation and final expulsion of a fibrous mass of dead tissue called the core.)

TREATMENT.

See Eczema (page 433).

PIMPLES.

(Small purulent elevations of the skin.)

TREATMENT.

See Eczema (page 433).

CARBUNCLE.

(An inflammatory gangrenous tumor involving the skin and cellular tissue beneath and presenting a large circumscribed inflamed area of the subcutaneous tissue.)

TREATMENT.

1. Thorough but careful manipulation in the immediate region of the carbuncle, moving the muscles in all directions very deeply in an effort to free the circulation; move the carbuncle gently from side to side.

2. Should the carbuncle be located on the neck, place one hand under the chin, the other under the occipital bone, and give slow but strong extension of the neck.

3. Give very gentle extension of the neck, rotating the head from side to side.

4. Should the carbuncle be located below the first dorsal, grasp the patient's shoulders, an assistant holding the feet, and give strong extension.

Treatment should be given each day, and will occupy ten minutes.

PARONYCHIA, PANARITIUM, WHITLOW, OR FELON.

(Inflammation arising in the phalanges of the fingers—rarely ever in the toes—generally advancing to suppuration. Its seat may be in the skin, tendons, periosteum, or in the cellular tissue under the nail, or may affect the bone. It may arise spontaneously, or may be caused by the prick of a needle, a pin, or a thorn.)

SYMPTOMS.

Burning, shooting, pain; swelling may arise, and may extend up the arm.

TREATMENT.

1. Place one hand upon the shoulder, with the other grasp the elbow, the arm of the patient being flexed; rotate the arm slowly but strongly, bringing it forward, upward, close to the face and above the head, then outward and downward, thus stretching the muscles and freeing the circulation immediately over the axillary and brachial arteries and veins.

2. Grasp the patient's hand, giving the arm quite strong extension; at the same time, with the disengaged hand, beginning close to the axilla, move the muscles from side to side the entire length of the arm, thus freeing the venous and capillary circulation.

3. Manipulate the flesh in the immediate region of the felon, gently but very thoroughly, endeavoring to move the muscles immediately under the felon.

This treatment will give immediate relief, and, unless the felon has reached an advanced stage, a speedy cure.

DERMATOMYCOSIS.

(A vegetable parasitic disease of the skin.)

TREATMENT.

Thorough manipulation of the affected parts, with a view of freeing the circulation.

Also Treatment to Equalize the Circulation (page 114).

DERMATORRHEA.

(Morbid increase of skin-secretion.)

TREATMENT.

See Treatment to Equalize the Circulation (page 114).

OTHER SKIN DISEASES.

Almost all skin diseases, no matter by what name they may be designated, can always be benefited, and in the great majority of instances entirely cured, by applying the Treatment to Equalize the Circulation (page 114), and, where it is deemed necessary, such local treatment as their peculiarities may give reason for. Included in these diseases may be mentioned, Acne, or Maggot-pimple; Xerodermia, Androsis, or Dry Skin; Comedo, Face-worm, or Blackhead; Blebs; Dermatitis, or Cytitis; Pityriasis, Branny Tetter, Dander, or Dandruff; Dermahemia; Dermatolysis; Dermatonosis; Dystrophy; Erythema; Pemphigus, Water-blebs, or Bladder Fever; Furuncles; Shingles, or Herpes Zoster; Scleroderma, or "Hide-bound"; Hyperidrosis, or Excessive Sweat; Impetigo, or Crusted Scall; Psoriasis, Scally Tetter, Dry Scale, Washerwoman's Scall, or Baker's Itch; Sycosis, or Barber's Itch; Lichen; Tineæ, or Ring-worm; Itching; and Melanopathia.

Diseases of the Bladder.

THE BLADDER.

The bladder is a musculo-membranous sac situated in the pelvis, behind the pubes, and in front of the rectum in the male, and serving as the reservoir for the urine. In the female the cervix uteri and upper part of the vagina intervening between the bladder and the rectum. The shape, position, and relations of the bladder are largely influenced by age, sex, and the degree of distension of the organ. During infancy it is conical in shape, and projects above the upper border of the os pubis into the hypogastric region. In the adult, when quite empty and contracted, it, together with the urethra, in a median vertical section, is Y-shaped, the urethra forming the stem of the Y. It is placed deeply in the pelvis, flattened from before backward, reaching as high as the upper border of the symphysis pubis. When slightly distended, it has a rounded form, still being contained within the pelvic cavity. When greatly distended, it may reach nearly as high as the umbilicus. The bladder, when distended, is slightly curved forward toward the anterior wall of the abdomen, so as to be more convex behind than in front. In the female it is larger in the transverse than in the vertical diameter, and its capacity is greater than in the male. When moderately distended, it contains about a pint.

The base of the bladder is directed downward and backward. It varies in extent according to its state of dis-

tension, being very broad when full, but much narrower when empty.

In the male it rests upon the second portion of the rectum, from which it is separated by a reflexion of the recto-vesical fascia.

The portion of the bladder in relation with the rectum corresponds to a triangular space, bounded in front by the prostate gland, and on each side by the vesicula seminalis and vas deferens.

In the female the base of the bladder lies in contact with the cervix uteri and upper part of the anterior wall of the vagina.

The neck of the bladder is the point of commencement of the urethra. The portion of the bladder immediately surrounding it is in relation with the prostate gland.

Ligaments.—The bladder is retained in its place by ligaments, which are divided into true and false, there being five of each.

Blood-Vessels.—The arteries supplying the bladder are the middle, superior, and inferior vesical in the male, with additional branches from the uterine and vaginal in the female. They are all derived from the anterior trunk of the internal iliac. The obturator and sciatic arteries also send small branches to the bladder.

The veins form a complicated plexus around the neck, sides, and base of the bladder, and terminate in the internal iliac vein.

Nerves.—The nerves are derived from the pelvic plexus of the sympathetic, and from the third and fourth sacral nerves, the former supplying the upper part of the bladder, the latter its base and neck.

Closure.—The internal vesical sphincter, which consists

of non-striped muscle, is an integral part of the muscular coat of the bladder, and surrounds the orifice of the urethra as far down as the prostatic portion, just above the colliculus seminalis. It is, however, not the sphincter muscle; the proper sphincter urethræ lies below the latter. It is a circular muscle disposed around the urethra, close above the entrance of the urethra into the septum urogenitale at the apex of the prostate, where it exchanges fibers with the deep transverse muscle of the perineum which lies under it.

Urine Accumulation and Micturition.—After emptying the bladder, the urine slowly collects again, the bladder being thereby gradually distended. As long as there is a moderate amount of urine in the bladder, the elasticity of the elastic fibers surrounding the urethra, and that of the sphincter of the urethra (and the prostate in the male), suffices to retain the urine in the bladder. If the bladder be greatly distended, so that its apex projects above the pubes, the sensory nerves in its walls are stimulated and cause a feeling of a full bladder, while at the same time the urethral opening is dilated, so that a few drops of urine pass into the urethra. Besides the subjective feeling of a full bladder, this tension of the walls of the bladder causes a reflex effect, so that the urinary bladder contracts periodically upon its fluid contents, and so do the sphincter of the urethra and the muscular fibers of the urethra, thus closing the urethra against the passage of these drops of urine. As long as the pressure within the bladder is not very high, the reflex activity of the transversely striped sphincter overcomes the other (as during sleep); as the pressure rises and the distension increases, the contraction of the walls of the bladder overcomes the closure produced by the sphincter and the bladder is emptied, as occurs normally in young children.

As age advances, the sphincter urethræ comes under the control of the will, so that it can be contracted voluntarily, as occurs in man when he forcibly contracts the bulbo-cavernosus muscle to retain urine in the bladder. The sphincter ani usually contracts at the same time. The reflex activity of the sphincter may also be inhibited voluntarily, so that it may be completely relaxed. This is the condition when the bladder is emptied voluntarily.

The Nerves Concerned in the Retention and Evacuation of the Urine are: (1) the motor nerves of the sphincter urethræ, which lie in the pudendal nerve from the anterior roots of the third and fourth sacral nerves; (2) the sensory nerves of the urethra, which excite these reflexes, and leave the spinal cord by the posterior roots of the third, fourth, and fifth sacral nerves. Section or paralysis of these nerves causes incontinence of urine. Stimulation of the sensory nerves causes reflex contraction of the bladder and evacuation of the urine.

CYSTITIS.

(Inflammation of the mucous membrane of the bladder. Due to local irritation or to infection. May be acute or chronic.)

SYMPTOMS.

Frequent desire to micturate; evacuation of small quantity of urine, with burning pain; pain in the epigastric region; in acute form, urine acid reaction, alkaline in chronic.

TREATMENT.

1. Place the patient on the side; beginning at the eighth dorsal vertebra, move the muscles upward and outward thoroughly and deep, to the lower extremity of the sacrum. Treat the opposite side in a similar manner.

2. Place the hand against the sacrum, the patient lying on the side; with the disengaged hand draw the limbs slowly backward as far as patient can stand without too much pain. Treat the opposite side in a similar manner.

3. Place the hand lightly over the bladder, and give gentle but strong vibration (pages 36 and 67) two minutes.

Treatment will occupy ten minutes, and should be given each day until recovery.

INTERSTITIAL CYSTITIS.

(Inflammation of the walls of the bladder between the mucous membrane and peritoneum.)

SYMPTOMS.

Same as Cystitis, with peritoneal complications.

TREATMENT.

See Cystitis (page 440).

VESICAL CALCULUS.

(Stone in the bladder.)

SYMPTOMS.

Similar to Cystitis, with vesical tenesmus; obstruction to discharge of urine, which may contain blood.

TREATMENT.

This disease is sometimes benefited and cured by osteopathic treatment, but is not treated very successfully.

See Cystitis (page 440).

VESICAL NEOPLASM.

(New growths or tumor in the bladder.)

SYMPTOMS.

Paroxysms of vesical tenesmus, and hemorrhage; urine may contain cellular evidence.

TREATMENT.

See Cystitis (page 440).

RETENTION OF URINE.

(Inability to expel urine from the bladder.)

CAUSE.

May be due to calculus, tumor, stricture, enlarged prostate, congestion, vesical paralysis, hysteria, etc.

SYMPTOMS.

Tumor in hypogastric region, tender to the touch, dullness on percussion; respiration short and shallow; flashes of heat; hot dry skin.

TREATMENT.

1. This trouble, except when due to calculus, stricture, tumor, or paralysis, is usually quickly relieved by thorough manipulation and stimulation of the spinal muscles and nerves from the eighth dorsal to the end of the sacrum, stimulating especially in the sacral regions, together with thorough vibration (pages 36 and 67) of the bladder.

2. It is also advisable to flex the limbs very strongly against the abdomen, holding them a few seconds in this position, thus stretching the muscles in the lumbar region.

3. In case of enlargement of the prostate gland, in addition to the above treatment, which should be given each day,

the prostate should be treated locally once each week. The finger should be thoroughly oiled with vaseline and passed carefully up the rectum, after which the prostate should be manipulated in a careful manner, with a view of freeing the circulation. It is remarkable how soon the prostate gland can be reduced by this method of treatment.

Cases of calculus, stricture, paralysis, and tumor have also been benefited, and occasionally cured, by the above treatment. The results, however, in those troubles are not so pronounced.

INCONTINENCE OF URINE, ENURESIS, OR BED-WETTING.
(Involuntary discharge of the urine. May be due to paralysis or relaxation of the compressor urethræ muscle.)

TREATMENT.

Children who have no control over their urine can usually be cured entirely of this annoying habit, in one or two treatments, by pressing on the sacrum, close to the last lumbar vertebra, and raising the limbs slowly, but as high as the patient can stand without pain (cut 28). This treatment is as reliable as mathematics.

Adults who from infancy have been troubled with this disease can almost always be cured in from one to four weeks by the above treatment.

Among the many cases cured by us of this trouble we will mention our first experience in this line. A young man of Kirksville, Mo., hearing that we were investigating this subject, called at our office, and, after explaining that he had no control over his urine and had been expending all his earnings in vain hope of relief, asked us to take his case. Not having a table at that time, we caused him to lie on his stomach on the floor, and, placing the right foot between his

thighs and the left on the sacrum, with an ankle in either hand, we raised the limbs, sprung down the sacrum, and asked him to call again on the second day. While administering the third treatment we inquired as to results, and were not only gratified, but surprised, to learn that he had had no trouble since the first treatment. Two years later the young man was still in perfect health. We might mention also a gentleman 82 years of age, of Lewistown, Mo., troubled with this disease for over thirty years. He was entirely cured in four weeks by this method of treatment.

DYSURIA.

(Difficult and painful micturition.)

TREATMENT.

See Cystitis (page 440).

Diseases of the Rectum and Anus.

The Rectum.

PROCTITIS.

(Inflammation of the rectum. Usually due to constipation. May be acute or chronic.)

SYMPTOMS.

Sensation of burning, with desire to go to stool; spasm of the sphincter ani muscle; discharges usually only mucous, but may be mixed with blood; pain in the rectum, radiating to the hips and back. Chronic form differs only in degree.

TREATMENT.

1. Place the patient on the side; beginning at the sixth dorsal vertebra, move the muscles upward and outward gently but deeply to the end of the coccyx, being very thorough in all regions where any abnormal temperature or tenderness is manifest. Treat the opposite side in a similar manner.

2. Flex the limbs strongly against the abdomen, holding them in this position a few seconds.

In case of constipation, see Constipation Treatment (page 150).

3. Place the patient on the side, the limbs flexed; oil the finger with vaseline, and pass carefully up the rectum, manipulating the rectum gently but thoroughly, with a view of freeing the circulation.

Treatment will occupy about ten or fifteen minutes, and should be given every other day until recovery, except the No. 3, which should only be given once a week.

It is always advisable in cases of rectal trouble to flush the bowels occasionally in case the patient is constipated.

HEMORRHOIDS, OR PILES.

(Small blood tumors near the anal orifice. Distension of hemorrhoidal veins, with inflammation and swelling. May be internal or external, bleeding or blind.)

SYMPTOMS.

A sensation of heat, fullness, and perhaps itching, is felt about the anus; the swelling increases until small tumors form, which are sore and painful; these may be external and visible or internal, and are often of a bluish color, and, when inflamed, they are very sore and painful to the touch. There is frequently a discharge of blood, especially from internal piles, and such discharges often return repeatedly until a habit is established, and there is a feeling of fullness before, and relief after such discharges.

Piles that do not bleed are called **blind piles**; this variety is apt to take on inflammation, when they become full, appear ready to burst, and are so very sensitive the patient can neither sit, lie down, nor walk.

CAUSE.

Piles are really a varicose condition of the rectum, and are usually the result of an obstruction of the hemorrhoidal veins.

TREATMENT.

1. Piles are often caused by constipation, and in such cases our Constipation Treatment (page 150) will usually effect a cure.

2. Place the patient on the face; and, with a thumb on each side of the spine, beginning at the first sacral vertebra, move the muscles very deeply upward and outward from the spine, working down to the end of the coccyx.

3. If the patient has **itching or bleeding piles**, pass the index finger its entire length up the rectum, very carefully moving the inner muscles from side to side, thus freeing the circulation. In **protruding piles** they should be replaced, and the same internal treatment given.

There is no danger in this treatment, and we have never known it to fail to effect a cure in from six to eight weeks. The internal treatment, which is rather painful, should be given but once a week, and always after flushing the bowels. Most cases of piles can be cured simply by our Constipation Treatment, which removes the usual cause of this distressing complaint.

Of the many aggravated cases cured by us, we will mention the case of a gentleman of Scammon, Kansas, whose piles protruded an inch and had not been replaced for twenty years. We took the case as an experiment, hardly hoping to effect a cure. In three weeks our patient was entirely well, and up to the present time has had no return of his old trouble.

Piles and fistula are sometimes caused by dislocation of the coccyx, in which case dislocation must be reduced. See Dislocation of the Coccyx (below).

DISLOCATION OF THE COCCYX.

TREATMENT.

1. Manipulate the muscles carefully and very thoroughly in the immediate region of the coccyx.

2. Dip the finger in vaseline, and pass carefully up the rectum, and with the thumb and finger endeavor to work the

coccyx gradually back to its normal position. Care must be taken not to use a great deal of strength, but to gain a little each treatment until the desired result is attained.

A great many very stubborn cases of the above diseases have been cured by simply reducing a dislocation of the coccyx.

The internal treatment should not be given oftener than once a week.

RECTAL CARCINOMA.

(Cancer of the rectum.)

SYMPTOMS.

Uneasiness in the rectum; pain in back, hips, and thighs; bowels obstructed; frequent discharges of a fetid muco-purulent matter streaked with blood. May be constipation or diarrhea.

No cure in Osteopathy.

RECTAL ULCER.

(Not frequent. Detected by palpation.)

TREATMENT.

See Hemorrhoids, or Piles (page 446).

The Anus.

PROLAPSUS ANI.

(Eversion of the lower portion of the rectum, and protruding through the anus. Most common in infancy and old age.)

TREATMENT.

1. Place the patient on the side, the limbs flexed; dip

the index finger in vaseline, and carefully replace the prolapsed portion of the rectum to its normal position; pass the finger carefully up the rectum, manipulating the muscles internally as thoroughly as possible.

2. Place the patient on the side; beginning at the eighth dorsal, move the muscles upward and outward, gently but deep, to the lower part of the coccyx. Treat the opposite side in a similar manner.

3. See Constipation Treatment (page 150).

4. Bowels should be flushed each day until a cure is effected.

Internal treatment should not be given oftener than once each week.

See Dislocation of the Coccyx (page 447).

FISTULA IN ANO.

(Abnormal tube-like passage by the side of the rectum, through fibers of the sphincter ani muscle.)

TREATMENT.

Manipulate the muscles thoroughly and deep around the fistula; dip the index finger in vaseline and pass carefully up the rectum, manipulating the fistula in a careful but very thorough manner.

Treatment should be given once each week until recovery.

COMPLETE FISTULA.

(Has an external opening near the anus and another in the bowels above the rectum.)

Not treated successfully by Osteopathy.

INCOMPLETE EXTERNAL FISTULA.

(Has an external opening, but none in the bowels.)

TREATMENT.

See Fistula in Ano (page 449).

INCOMPLETE INTERNAL FISTULA.

(Has an opening into the bowels, but none externally.)

Not treated successfully by Osteopathy.

ANAL FISSURE.

(A small chap, crack, or ulcer in the anal orifice, usually behind. Gives intense pain during defecation.)

TREATMENT.

1. In case of constipation, see Constipation Treatment (page 150).

2. Manipulate the muscles thoroughly and deeply in the immediate region of the fissure, both externally and internally.

Treatment should be given twice a week; an immediate improvement will be noticed, and a cure can be expected in from four to eight weeks.

Diseases of the Bones and Joints.

SPONDYLITIS, SPINAL OSTITIS, SPINAL CARIES, OR POTT'S DISEASE.

(A progressive inflammatory lesion of the vertebral bodies, or the intervertebral disks. Chronic in character, leading to partial or complete destruction of the vertebræ, and terminates in anchylosis, with a characteristic posterior deformity. It is considered a tuberculous disease of the spine, and may occur in the cervical, dorsal, or lumbar region.)

SYMPTOMS.

Restlessness; fatigue on slight exertion; pallor of the skin; anorexia; irritability; tendency to lean against objects.

If in the cervical region, head frequently held to one side; pain in the pharynx, side of the neck, the larynx, and the esophagus.

If in the dorsal region, patient frequently leans forward, and in stooping does not bend the back. Pain in the stomach or intestines or chest walls.

If in the lumbar region, patient frequently leans forward over a chair or couch, to relieve the weight of the body from the injured vertebræ; body inclined to one side, and frequently holds one limb forward. Pain in the intestines, liver, or other abdominal viscera.

There is usually paralysis of the lower extremities, followed by posterior angular curvature.

TREATMENT.

1. Place the patient on the side; beginning at the upper cervicals, move the muscles upward and outward, gently but deep, the entire length of the spinal column, being exceedingly thorough in the immediate region of the diseased vertebræ.

2. An assistant grasping the shoulders, another the feet, give gentle extension, as the operator at the same time endeavors, by gentle pressure and manipulation, to force the vertebræ back to their normal position. The extension should not be continued over three or four minutes each treatment; neither should sufficient strength be used to pain or exhaust the patient.

This treatment will cure Pott's disease if taken in its early stages, and will be found very beneficial, strengthening and invigorating the patient at almost any stage of the disease.

SPINAL CURVATURE.

(The curvature may be **anterior, posterior,** or **lateral.**)

CAUSE.

Curvature may be caused by long-continued, unequal compression of the intervertebral cartilages.

Lordosis is usually found in the lumbar region, and is simply an exaggeration of the normal curve, with convexity forward, due to some deformity or diseased condition, such as rickets, congenital femoral luxation, coxalgia, etc.

Kyphosis (humpback) is an exaggeration of the normal dorsal curve, causing convexity of the back, resulting from debility, rickets, or occupation requiring constant stooping.

Scoliosis appears most frequently in girls between the ages of fourteen and eighteen. There are usually two lateral

curvatures. Their convexities are turned in opposite directions.

SYMPTOMS.

Pain and fatigue in the back and shoulders when sitting; projection of scapula, wing-like; undue prominence of the iliac crest of the affected side, with projection of the breast on the opposite side.

TREATMENT.

1. Place the patient on the side; move the muscles upward and outward the entire length of the spinal column, being very thorough in the region of the curvature. Treat the opposite side in a similar manner.

2. In case of **lordosis**, a thorough extension of the spine should be given. Should always treat with a view of removing the primary cause.

2. In case of **kyphosis**, place the patient on the face; an operator, grasping the shoulders, draws the patient, head and shoulders, over the end of the table, until the upper border of the curvature is a few inches beyond its end. The operator now places his thumbs upon the spinous process at the upper border of the curvature; the head and shoulders of the patient will now be lowered as far as possible, the operator making strong pressure with the thumbs as the patient is raised to a level with the table. Place the thumbs on the next lower vertebra, lower the head and shoulders as before, and repeat until the lower border of the curvature is reached. It is always advisable, if convenient, to have a second assistant grasp the ankles of the patient, in which case strong extension can be given as the head and shoulders are brought to a level with the table, as the operator makes strong pressure upon the spinous process.

4. In case of scoliosis, place the patient on the face; the thumbs upon the side of the first spinous process which is out of line, the operator standing at the side of the table toward the convexity, an assistant grasps the shoulders of the patient, a second passes one hand under the limbs just above the knees and draws the limbs slowly away from the operator, on a level with the table, as far as the patient can stand without too much inconvenience, the patient relaxing all muscles; as the limbs are brought back to their former position strong extension should be given, the operator pressing hard with the thumbs on the spinous process at the instant the body, under strong extension, arrives at its former position. Move the thumbs down to the next spinous process, give abduction, adduction, and extension, as before, and repeat until the lower border of the curvature is reached.

The curvature upon the opposite side should be treated in a similar manner.

It is usually advisable in all cases of curvature of the spine to give a thorough General Treatment (page 306), to tone up and equalize the entire system.

This treatment will occupy about twenty or thirty minutes. An immediate change for the better will be noticed, and the treatment should be continued every other day until recovery.

RICKETS, OR RACHITIS.

(A disease of early childhood, chiefly due to deficient nutrition, characterized by softening of the bones, especially of the spine, and consequent deformity.)

SYMPTOMS.

Bones are soft and yielding; muscles flabby; child feeble, also inactive, resembling paralysis; sides of chest flattened; sternum projects; digestion impaired.

TREATMENT.

If taken in time, this disease can be cured. After it has become fully developed, it can be materially benefited by the following treatment:

1. Careful and through manipulation of all contracted muscles.

2. Place the patient on the back; two assistants grasping the shoulders and feet, give careful extension, the patient cautioning them when too much strength is used; the operator now gently forces the soft, yielding bones toward their normal position.

Great care should be exercised not to overdo matters, simply endeavoring to gain a little each treatment, which should be given every other day, occupying about ten or fifteen minutes.

We might mention, in this connection, the case of a little girl, twelve years of age, which we treated very successfully at Cherokee, Kas. The disease first manifested itself eight years previous, since which time she had been almost constantly under treatment in various sanitariums of the West; gradually failing, until the pressure upon the spinal cord was so great as to cut off communication between the brain and lower extremities, thus causing paralysis of the lower limbs. The ribs were in such position as to affect the heart and lungs. Hearing of Osteopathy, the father called us in to examine and treat the child, who was absolutely helpless, and in almost a dying condition. After four weeks of treatment the little one could walk, and in four months was able to attend school, for the first time in her brief career. The above results in such hopeless cases as this are the exception and not the rule.

CRETINISM.

(Endemic disease, with deficient development of the organism.)

SYMPTOMS.

Body under-sized; head broad and shallow; eyes far apart; nose flat; hands broad; hair stiff; skin dry and rough; and intellect impaired.

No cure in Osteopathy.

AKROMEGALIA.

(Hypertrophy of the bones of hands, feet, and face.)

SYMPTOMS.

Usually spinal curvature; soft parts undergo enlargement; thyroid gland may be atrophied or hypertrophied; headache; stature may increase.

No cure in Osteopathy.

ARTHRITIS.

(Inflammation beginning in either the synovial membrane or the bone, and affecting all the structures of a joint.)

CAUSE.

Acute form may be traumatic or infective, due to pyemia, gonorrhea, etc. Chronic form is usually diathetic, due to struma, gout, rheumatism, etc.

SYMPTOMS.

Heat, redness, and edema; crepitus, tenderness, pain; swelling, involving the entire joint; atrophy of the muscles of the affected limb; fever, when there is suppuration, and passes to the typhoid or hectic type.

TREATMENT.

In case the difficulty is in the **shoulder-joint**:

1. Place the patient on the side opposite the shoulder affected; beginning at the upper cervicals, move the muscles upward and outward, gently but very deep, to the lower border of the scapula.

2. Place the flexed arm of the patient against the radius and ulna of the operator, whose arm should be in a flexed position (cut 7); using the arm as a lever, press the shoulder upward and outward, thus stretching and freeing the muscles beneath the scapula.

3. Place one hand upon the shoulder, pressing the muscles outward over the point of the acromion process; with the disengaged hand grasp the patient's arm at the elbow, which should be flexed, rotating the arm slowly, gently but as strong as possible, forward, upward, backward, and downward (cut 30).

4. Place the hand in the axilla, with the other grasp the patient's wrist, giving gentle but quite strong extension of the arm.

Great care must be exercised, in giving the above treatment, to give the patient no unnecessary pain, seeking to free the circulation, and stretch the muscles a little each treatment until the desired results are obtained.

Treatment should be given every other day.

In case the difficulty is in **any other joint of the arm**, the same treatment will apply, being particularly thorough in the immediate region of the affection.

In case the difficulty is in the **hip-joint**:

1. Place the patient on the side opposite the affected hip; beginning at the first lumbar vertebra, move the muscles upward and outward, very deep, to the end of the sacrum;

also manipulate carefully but very deep all the muscles in the immediate region of the affected joint.

2. Flex the limb slowly, gently, but as strong as possible, as far as the patient can stand; giving rather strong abduction of the knee as the limb is gently extended.

3. Placing one hand against the sacrum, the other on the knee, draw the limb slowly backward as far as possible.

This treatment frees the circulation, and, if given carefully every other day, will effect a speedy cure.

In case the difficulty is in any other joint of the leg, the above treatment should be given, together with careful but thorough manipulation, flexion, and extension of the joint affected.

SYNOVITIS.

(Inflammation of the synovial membrane of the joint. May be acute or chronic.)

SYMPTOMS.

In acute form, intense pain, worse at night; tenderness; muscular atrophy; inflammatory fever, with local heat and redness.

In chronic form, symptoms of inflammation are slight or wanting; joint weak, but can be used; membrane may become thickened and indurated from venous congestion, or pass into fatty degeneration.

TREATMENT.

See Arthritis (page 457).

COXALGIA, OR HIP-JOINT DISEASE.

(A strumous arthritis of the hip-joint, occurring usually in persons under fifteen years of age. More common in boys, and may be tubercular.)

EXPLANATORY.

Coxalgia is divided into *three varieties:* **Femoral,** beginning in the upper epiphysis of the femur; **Acetabular,** involving the floor of the acetabulum; **Arthritic,** beginning as a synovitis. It also has *three stages:* (1) **Inflammatory,** causing flexion and fixation of the joint; (2) **Effusive,** causing flexion, abduction, and fixation, with apparent lengthening from compensatory curvature of the spine; (3) **Suppurative,** causing flexion, fixation, adduction, and inversion, with apparent shortening, due to compensatory curvature of the spine in the opposite direction.

SYMPTOMS.

In the **first stage,** pain, usually in the knee; tenderness on jarring the femur upward, or on pressing suddenly inward on the trochanter; limping, which may wear off in the evening; fixation, detected by attempting to flex, extend, and rotate the femur.

In the **second stage,** pain is more intense; tenderness, limping, and fixation are more marked; swelling may be apparent, also atrophy.

In the **third stage,** flexion, adduction, and inversion, the affected thigh crossing the other; pelvis elevated on the diseased side; shortening, real from wasting, and apparent from spinal curvature; suppuration and abscess are common.

The **femoral form** is characterized by starting pain most marked at the knee, shortening and luxation as the disease progresses.

The **acetabular** form shows marked tendency to abscess. which may point from within the pelvis over the nates, or above Poupart's ligament.

The **arthritic form** approaches nearer to the type of an acute inflammation, with sharp pain in the hip-joint, swelling, etc.

TREATMENT.

1. See Arthritis (page 457).
2. If attended by Spinal Curvature, see (page 453).

HYDRARTHROSIS, OR WHITE SWELLING.

(Serous effusion into a joint, usually the knee-joint; generally strumous, and occurring in children.)

SYMPTOMS.

Pain, tenderness, swelling, and lameness, at first slight, gradually increasing; knee at first flexed, but as the ligaments become softened, and yield, there is a backward displacement and outward rotation of the tibia on the femur; crepitus is marked; abscess may form, opening externally, or the joint may become anchylosed.

TREATMENT.

See Arthritis (page 457).

If taken in its early stages, this disease is treated very successfully.

ANCHYLOSIS, OR STIFF JOINT.

(**True anchylosis** is dependent on articular and intra-articular thickening and adhesion. It may be **complete**, in which case an osseous deposit has united the articular surfaces either in part or throughout. Rarely found except after traumatic arthritis. It may be **incomplete**, motion being restricted by fibrous union between the joint surfaces. **False anchylosis** is dependent on contractions and adhesions of the soft parts around the joint.)

TREATMENT.

1. Give a very thorough manipulation of the muscles in the region of the affected joint.

2. Gentle but strong flexion and extension of the joint affected.

Treatment should be given each day. These cases are rather slow to respond, but a continuation of the treatment will usually effect a cure, provided the case is not one of complete anchylosis.

SPRAINS.

(The twisting of a joint, by which the soft parts about it are stretched or torn. Muscles, tendons, ligaments, nerves, and blood-vessels may be involved.)

SYMPTOMS.

Pain and swelling, due to both extravasation of blood and inflammatory effusion within and without the joint. Discoloration and loss of function.

TREATMENT.

1. Thorough manipulation of the muscles, gentle but deep, in the immediate region of the sprain.

2. Thorough extension and gentle rotation of the joint.

Treatment should be given every day. Immediate relief will follow the first treatment, and a speedy cure may be expected.

Gynecology—Diseases of Women.

That our readers may gain a more correct understanding of our method of treating diseases peculiar to women, it will be necessary to refer to the anatomy.

THE UTERUS.

The uterus is the organ of gestation, receiving the fecundated ovum in its cavity, retaining and supporting it during the development of the fetus, and becoming the principal agent in its expulsion at the time of parturition. In the virgin state it is pear-shaped, flattened from before backward, and situated in the cavity of the pelvis between the bladder and rectum; it is retained in its position by the round and broad ligament on each side and projecting into the vagina below. Its upper end, or base, is directed upward and forward; its lower end, or apex, downward and backward in line of the axis of the inlet of the pelvis. The uterus measures about three inches in length, two in breadth at its upper part, and nearly an inch in thickness, and weighs from an ounce to an ounce and one-half.

The size, weight, and location of the uterus varies at different periods of life and under different circumstances. In the fetus the uterus is contained in the abdominal cavity, projecting beyond the brim of the pelvis.

The uterus consists of two parts: the body, with its upper broad extremity, the fundus; and the cervix, or neck, which is partly above the vagina and partly in the vagina.

The division between the body and cervix is indicated externally by a slight constriction, and by the reflexion of

the peritoneum from the anterior surface of the uterus on to the bladder, and internally by a narrowing of the canal, called the internal os.

The **body** gradually narrows from the fundus to the neck. Its anterior surface is flattened, more than the posterior, covered by peritoneum throughout, and separated from the bladder by the utero-vesical pouch. Its posterior surface is convex transversely, covered by peritoneum throughout, and separated from the rectum by some convolutions of the intestine. Its lateral margins are concave, and give attachment to the Fallopian tube above, the round ligament below and in front, and the ligament of the ovary behind both of these structures.

The **fundus** is placed on a line below the level of the brim of the pelvis, being directed forward behind the upper portion of the anterior pelvic wall.

The **cervix** is the lower constricted segment of the uterus; around its circumference is attached the upper end of the vagina, which extends upward a greater distance behind than in front.

The supravaginal portion is not covered by peritoneum in front; a pad of cellular tissue is interposed between it and the bladder. Behind, the peritoneum is extended over its upper part. The vaginal portion is the rounded lower end projecting into the vagina. On its surface is a small aperture, the os uteri, generally circular in shape, but sometimes oval. The margin of the opening is, in the absence of past parturition or disease, quite smooth.

Ligaments.—The ligaments of the uterus are eight in number: one anterior; one posterior; two lateral or broad; two sacral-uterine—all these being formed of peritoneum;—and, lastly, two round ligaments.

Cavity.—The cavity of the uterus is small compared with the size of the organ; that portion of the cavity which corresponds to the body is triangular, flattened from before backward, so that its walls are closely approximated, and its base is directed upward toward the fundus. At each superior angle is a funnel-shaped cavity, which constitutes the remains of the division of the body of the uterus into two cornua, and at the bottom of each cavity is the minute orifice of the Fallopian tube. At the inferior angle of the uterine cavity is a small constricted opening, the internal orifice, which leads into the cavity of the cervix.

Blood-Vessels.—The **arteries** of the uterus are the uterine, from the internal iliac, and the ovarian, from the aorta. They are remarkable for their tortuous course in the substance of the uterus, and for their frequent anastomoses. The termination of the ovarian artery meets the termination of the uterine artery, and forms an anastomotic trunk, from which branches are given off to supply the uterus.

The **veins** are of large size, and correspond with the arteries. In the impregnated uterus these vessels are termed the uterine sinuses, consisting of the lining membrane of the veins adhering to the walls of the canal channelled through the substance of the uterus. They terminate in the uterine plexuses.

Nerves.—The nerves are derived from the inferior hypogastric and ovarian plexuses, and from the third and fourth sacral nerves.

At puberty the uterus is pyriform in shape, and weighs from eight to ten drachms. It has descended into the pelvis, the fundus being just below the level of the brim of the pelvic cavity. The arbor vitæ is distinct, and extends to the upper part of the cavity of the organ.

During menstruation the uterus is enlarged, and more vasicular, its surfaces rounder; the os externum is rounded, its labia swollen, and the lining membrane of the body thickened, softer, and of a darker color. At each recurrence of the menstruation a molecular disintegration of the mucous membrane takes place, which leads to its complete removal, only the bases of the glands inbedded in the muscle being left. At the cessation of menstruation, by a proliferation of the remaining structures, a fresh mucous membrane is formed.

The uterus being suspended by muscles and ligaments in the cavity of the pelvis, and being subject to so many and such radical changes, it is in no way surprising that ulceration, polypus, cancer, and prolapse of the uterus are so very prevalent.

DISPLACEMENTS OF THE UTERUS.

The true pathology or proximate condition of these affections is but little understood by the medical profession, as is apparent from the general ill success attending the ordinary treatment. The term *prolapsus* is used indiscriminately for all degrees of simple descent or *falling of the womb;* but some books use the term *relaxation* when the descent is only to the middle of the vagina, *procidentia* when the uterus descends to the labia, and *prolapsus* when it protrudes externally. *Retroversion* is that form of displacement in which the fundus uteri descends toward the sacrum, the os uteri, or mouth of the womb, inclining towards the pubes. *Anteversion* is the reverse of the preceding, the fundus falling forward and the os uteri inclining backward. In *inversion* the organ is turned inside out while in a state of prolapse. In *anteflexion* the body of the uterus is bent forward on the cervix. *Retroflexion* denotes the permanent backward dislocation of the fundus uteri, with simultaneous flexion of the

uterus over the posterior surface. In some cases the upper part of the vagina protrudes into the lower, constituting what is called *prolapse of the vagina.*

SYMPTOMS.

Prolapse of the uterus is attended with a heavy, disagreeable, or painful dragging-down sensation at the lower part of the abdomen, aching or weakness about the small of the back, and, when severe, great difficulty or inability in walking. At first there is increased mucous secretion, which increases by degrees until it acquires the character of an obstinate leucorrhea.

Retroversion of the uterus is attended with irregular or constipated bowels, and from the pressure of the displaced organ in the rectum behind and urethra in front there is more or less difficulty experienced in expelling the contents of the bowels and bladder. In this situation the womb often becomes congested, inflammatory, and enlarged, and every attempt at walking is exceedingly painful and exhausting. In bad cases the patient can only endure a fixed, motionless position in her chair or bed. There is, too, usually considerable tenderness and tension of the whole abdomen.

Anteversion is a less frequent occurrence; it is denoted by difficulty in walking, sense of weight or fullness in the pelvis, with many of the symptoms of prolapse, and is attended with much less difficulty in evacuating urine and feces than retroversion.

Inversion is known by the organ hanging down externally; it is usually the result of violence in extracting the placenta, but may occur from an adhesion of the placenta or from polypous tumors. In some instances the falling of the uterus or vagina drags the bladder with it, constituting what is called complicated prolapse. In this case the bladder, being deprived of the expulsory aid of the abdom-

inal muscles, is incapable of evacuating its contents without artificial assistance.

Anteflexion must be accompanied by rigidity at the point of flexion; there are disturbances of bladder functions, and symptoms peculiar to inflammation. The os is frequently small and the cervix long. The uterus may also, at the same time, be retroverted.

Retroflexion never exists without some degree of retroversion. There is pain in the back constantly; reflex neuroses, excessive, long, and painful menstruation; and conditions due to the extent of retroversion. The neck is usually near the vulva.

Genital excrescence consists in polypus or other tumors issuing from the surface of the uterus or vagina; they are of all sizes and various degrees of consistency, from the softness of the sponge to the firmness of leather.

SPECIAL CAUSES.

Although medical authors and professors of midwifery are continually talking about "relaxation of ligaments," which hold the uterus in position, as the main cause of its displacement, it is quite clear that this relaxation has nothing whatever to do with it; the yielding or elongation of the ligament itself being an effect of the displacement. The natural supports of the uterus are the vagina and abdominal muscles; if the former is greatly relaxed, the uterus will descend, and the ligaments, being kept constantly on the stretch, will finally elongate more or less; and if the abdominal muscles are greatly debilitated, they do not contract vigorously, so as to keep up equable and uniform compression in all the various positions of the body, and hence the uterus is liable to fall forward or backward, or to incline laterally; and when both are badly relaxed and debilitated,

we find both conditions of displacement—falling down and tipping transversely across the pelvis.

In corroboration of this view of the subject, we may advert to the fact that all the cases of uterine displacement met with in our practice, with the single and rare exception of such as are produced by violence, occur in females who suffer from the very circumstances which are most efficient in inducing muscular relaxation of these parts, as constipation, piles, dyspepsia, nervous debility, mis-menstruation, abortions or miscarriages, preternatural labors, etc.

It is a well-known fact that all cases of female troubles are accompanied by a weak, lame **back**, and it is to this point we trace the real cause of most cases of falling of the womb and other troubles peculiar to women. Either by an accident or overwork, the muscles of the back, from the first lumbar vertebra to the last sacral, have become strained, causing contraction and a consequent pressure on the nerves which control the organs of generation, thus breaking the nervous current from the brain to these parts, interfering with the circulation and permitting the muscles and the vagina, which hold the organs of generation in place, to relax. The fact that our treatment usually gives immediate relief, and in most cases a continuation of the treatment effects a permanent cure, is ample proof that in female troubles the principles of Osteopathy are far superior to any other known method.

TREATMENT FOR DISPLACEMENTS OF THE UTERUS.

1. Place the patient on the side; beginning at the first lumbar vertebra, with the fingers close to the spine, move the muscles upward and outward, very gently but deep, as low as the last sacral vertebra. In the sacral region move the muscles very deeply for about two inches on each side, as it is here we find formina which transmit nerves directly

to the organ in question. Treat the opposite side in a similar manner.

2. Place the patient on the back; flex the limbs slowly but strongly against the abdomen, and hold in this position for a few seconds, moving them gently from side to side.

The above treatment stimulates the nerves and frees the blood-supply to the weakened muscles and the vagina; relaxation and lack of tone being the true cause of this disease.

3. In all cases of constipation the bowels should be flushed and the Constipation Treatment (page 150) given.

4. Insert the finger into the vagina and move the uterus carefully back to its normal position. It is seldom necessary to use an instrument to perform this operation.

Treatment should be given every other day, except local treatment, which should be given no oftener than every third or fourth day. In the majority of cases a decided relief will be the result of the first treatment.

In a great many instances a slight dislocation will be discovered in the lumbar region—the result of accident or a strain. In such instances a speedy cure may be effected by reducing the dislocation, in addition to the above treatment.

See Dislocation of the Lumbar Vertebræ (below).

DISLOCATION OF THE LUMBAR VERTEBRAE.

TREATMENT.

Place the patient on the face, the limbs lying perfectly straight, the arms hanging over the sides of the table; in this position the spinous processes of the lumbar vertebræ should be exactly in line and an equal distance should intervene between them; place one finger upon each side of the last dorsal vertebra, move the fingers carefully down the spine, and a slight lateral slip will easily be detected.

In case the spinous processes are thrown up or down, it is easily discovered by passing the finger slowly downward over the spines.

In case of a lateral displacement to the right, after manipulating the muscles gently but deeply in the immediate region, place the thumbs upon the spinous process of the vertebra at fault, while an assistant, grasping the limbs, carries them slowly but quite strongly to the left, bringing them with strong extension slowly back to their former position, the operator pressing quite hard upon the spinous process of the vertebra at fault the instant the limbs, under strong extension, are brought back to the median line. Care must be exercised not to use sufficient strength to cause the patient much pain, the object being to gain a little each treatment until the cure is effected, which usually requires from two to eight weeks' treatment, given every other day.

In case of a posterior dislocation the patient should be placed upon the side, the thumbs of the operator upon the spinous process at fault, while the limbs are flexed by an assistant strongly against the abdomen, a strong pressure being exerted by the operator upon the vertebra at fault as the limbs are extended slowly but with strong extension.

ANTEVERSION.

(A forward inclination of the entire uterus.)

CAUSE.

May be due to tight clothing, violent effort, pregnancy, congestion, or dislocation of lumbar vertebræ.

SYMPTOMS.

Frequent micturition, due to pressure of the uterus on the bladder; may be menorrhagia; other symptoms similar to Metritis, Cellulitis, and Peritonitis; the cervix is far back

into the hollow of the sacrum; the fundus approximates the symphisis pubis.

TREATMENT.

See Displacements of the Uterus (page 469).

ANTEFLEXION.

(A bending forward of the uterus, forming an angle at its body. It may be congenital or acquired.)

CAUSE.

May be due to tight clothing, muscular efforts, tumor, pregnancy, or a partial dislocation of a lumbar vertebra.

SYMPTOMS.

Frequent micturition; dysmenorrhea; leucorrhea; sterility; the cervix lies rather high, the os directly downward and forward.

TREATMENT.

See Displacements of the Uterus (page 469).

RETROVERSION.

(A backward inclination of the entire uterus.)

CAUSE.

May be due to tight and heavy clothing, muscular efforts, distended bladder, pregnancy, or partially dislocated vertebra in the lumbar region.

SYMPTOMS.

Gnawing pain in the back; constipation; menorrhagia; leucorrhea; cervix lies near the symphisis pubis, the fundus in the hollow of the sacrum.

TREATMENT.

See Displacements of the Uterus (page 469).

RETROFLEXION.

(A bending backward of the uterus, forming an angle at its body. The most frequent of uterine displacements.)

SYMPTOMS.

Dysmenorrhea; sterility; abortion; cervix lies in its place; the fundus appears as a round tumor in the posterior fornix of the vagina.

TREATMENT.

See Displacements of the Uterus (page 469).

LATEROFLEXION.

(A bending of the uterus to the right or left side. Can be detected by conjoined manipulation.)

CAUSE.

May be due to inflammatory disease, direct pressure, increased weight, or partial dislocations in the lumbar region.

SYMPTOMS.

May simulate fibrous tumors.

TREATMENT.

See Displacements of the Uterus (page 469).

COMPOUND FLEXIONS.

(Varieties are: Retro-Anteflexion, Retro-Lateroflexion, Ante-Retroflexion, Ante-Lateroflexion.)

TREATMENT.

See Displacements of the Uterus (page 469).

INVERSION.

(Uterus turned inside out.)

CAUSE.

Due to relaxation and inertia of the uterine walls, and downward traction or pressure.

SYMPTOMS.

Dragging pain in the pelvis; anemia; hemorrhage; leucorrhea; general malaise; cupping may be felt on abdomen by the hand.

May be benefited, but is not treated successfully, by Osteopathy.

PROLAPSUS UTERI.

(Falling down of the uterus.)

CAUSE.

Due to distension and eversion of the vagina, and impairment of the sphincter vaginæ muscle; also relaxation of the uterine ligaments. Generally produced by parturition, followed by a lack of tone in the supports.

SYMPTOMS.

Dragging sensation in the lower abdomen and back; protrusion and excoriation of the parts; gradual descent of the vaginal walls, cervix, and body of the uterus; micturition difficult.

This disease may be benefited by Treatment for Displacements of the Uterus (page 469), but is not treated very successfully by Osteopathy.

AMENORRHEA.

(Absence of menstruation between puberty and the menopause. May be divided into: **Emansio Mensium**, where menstruation has never appeared; **Suppressio Mensium**, where menstruation is suppressed.)

SYMPTOMS.

When caused by phthisis, there is emaciation, cough, and night sweats; when caused by anemia, there is dyspnea and palpitation on exertion; depraved appetite; headache; constipation; hysteria; pallor, and edema.

TREATMENT.

In suppressed menstruation osteopathic treatment, freeing and equalizing the circulation and nerve-wave to the genital organs, is remarkably successful, usually giving immediate relief, and a continuation of the treatment a permanent cure, except in cases where the suppression of the menses is the direct result of tuberculosis.

1. Place the patient on the face; beginning at the eighth dorsal vertebra, with the thumbs upon each side of and close to the spinal process, move the muscles upward and outward, gently but very deep, the entire length of the spine.

2. Beginning at the first lumbar vertebra, with both hands upon the same side of the spine, the fingers close to the spine, move the muscles slightly upward and strongly outward with quite a strong pressure, permitting the hands to slip over the flesh as they are drawn outward. Treat in this manner to the lower part of the sacrum, being very thorough in the lower lumbar and sacral region.

3. Place the patient on the back; flex the limbs slowly but strongly against the abdomen, hold in this position a few

seconds, and then move them gently from side to side without relaxing the pressure.

4. One operator grasping the shoulders, an assistant the feet, give gentle extension of the spine.

5. Place the hand lightly over the uterus, and vibrate (pages 36 and 67) gently one minute.

6. It is very often advisable in cases of Amenorrhea, or suppressed menstruation, to give such portion of our General Treatment (page 306) as conditions indicate. It is also always advisable to make careful examination of the spine, endeavoring to detect, if possible, any irregularity in the spinous processes in the vertebræ of the lumbar region. Slight dislocation here, caused by strain or accident, is often the cause of serious trouble. See Dislocation of the Lumbar Vertebræ (page 470).

OLIGOMENORRHEA.

(Insufficient menstrual flow.)

TREATMENT.

See Amenorrhea (page 475).

MENORRHAGIA.

(Excessive and long menstrual flow.)

TREATMENT.

1. Place the patient upon the table; beginning at the sixth dorsal, with the hands both upon the same side of the spine, move the muscles slightly upward but strongly outward, pressing quite hard as the hands are permitted to slip over the muscles. Treat in this manner to the lower sacral. All motions should be very slow and gentle, but as hard a pressure used, as the hands are slipped outward from the spine, as the patient can stand.

2. With one thumb upon each side of the first lumbar vertebra, between it and the second, press gently but very strong a few seconds. Treat each successive vertebra in a similar manner until the lower vertebra is reached, where a little stronger and longer pressure should be given.

3. Place the patient on the side; with one hand against the sacrum, the other grasping the crest of the ilium, draw the ilium strongly toward the operator, at the same instant pressing hard upon the sacrum.

Treatment should be given every other day, in a very careful manner. One month's treatment correctly given is usually sufficient to effect a cure.

METRORRHAGIA.

(Uterine hemorrhage, independent of the menses.)

CAUSE.

May be caused by obstruction of the general circulation; diseases of the heart, lungs, or liver; low condition of the blood and vessels in a wasting disease; fungous degeneration of the uterine mucous membrane; inversion of the uterus; polypus; carcinoma; ulceration; congestion; areolar hyperplasia; hematocele; or retained products of conception.

TREATMENT.

In the treatment of this disease so much depends upon the real cause or combination of causes that the results obtained will depend in a large measure upon the good judgment of the operator, who, after a careful study of his work, should select such treatment as the conditions would indicate.

DYSMENORRHEA.

(Painful menstruation.)

TREATMENT.

See Amenorrhea (page 475).

NEURALGIC DYSMENORRHEA.

(Usually associated with other forms, and generally with indoor life; anemia; malnutrition, or hysteria.)

SYMPTOMS.

Pain in the uterus at times; at others it is referred to the ovaries; shooting in character; usually begins just before the flow, and may be relieved by free flow.

TREATMENT.

See Amenorrhea (page 475).

OBSTRUCTIVE DYSMENORRHEA.

CAUSE.

May result from flexion or version of the uterus, contraction of the cervical canal, vaginal stricture, polypus in the uterus, or obturator hymen.

SYMPTOMS.

Cramp-like pain, with expulsion of blood-clots, which may relieve the pain until further obstruction.

TREATMENT.

See Displacements of the Uterus (page 469).

CONGESTIVE DYSMENORRHEA.

CAUSE.

May result from exposure to cold, defective portal circulation, plethora, metritis, pelvic peritonitis, ovaritis,

areolar hyperplasia, fibrous tumor, displacement of the uterus, or mental disturbances.

SYMPTOMS.

Feeling of weight and heat in the back and pelvis just before the flow; elevation of temperature; rapid pulse; flushed face; headache. Usually relieved by free flow.

TREATMENT.

1. See Amenorrhea (page 475).
2. See Displacements of the Uterus (page 469).
3. In the treatment of this disease a great deal depends upon the judgment of the operator in selecting such treatment as conditions indicate, always endeavoring to remove the cause, and to free and equalize the circulation and nerve-wave.

MEMBRANOUS DYSMENORRHEA.

(Usually associated with chronic endometritis and poor general health.)

SYMPTOMS.

Colicky pains at the menstrual period, with expulsion of organized membranes, either as a whole or in pieces.

TREATMENT.

See Amenorrhea (page 475).

OVARIAN DYSMENORRHEA.

(Associated with disease of the ovaries.)

SYMPTOMS.

Pain and tenderness over the ovary between periods, increased by exercise, coitus, and defecation; symptoms are intensified at the menstrual period.

TREATMENT.

1. See Amenorrhea (page 475).

2. Place the patient on the back; manipulate the ovaries gently, carefully, and in a very thorough manner.

3. Place the hand lightly over the ovary, and vibrate (pages 36 and 67) gently one minute.

4. Place the patient on the side; with one hand of the operator against the sacrum, the other grasping the patient's knee, draw the limb slowly but quite strongly backward, pressing at the same moment upon the sacrum. This manipulation stretches the muscles in the immediate region of the ovary. Treat the opposite ovary in a similar manner.

Treatment should be given every other day; an immediate change for the better is usually the result of the first few treatments.

LEUCORRHEA, OR THE WHITES (UTERINE CATARRH).

(Discharges from the vagina of a whitish or yellowish mucus.)

CAUSE.

May be caused by disordered menstruation, rectal or vesical irritation, endometritis, inversion of the uterus, granular degeneration, fibroids or polypi, and other genital or inflammatory processes.

TREATMENT.

This disease may be the result of so many different causes that a great deal will depend upon the good judgment of the operator in properly locating the cause and giving suitable treatment.

This disease usually, however, responds quite readily to the following treatment.

1. See Amenorrhea (page 475).

2. Place the patient on the face; the thumbs of the operator upon each side of and close to the spinous process of the second lumbar vertebra, an assistant raises the limbs slowly, but quite strongly, as high as patient can stand, the operator pressing quite hard, at the same instant, with the thumbs; move the thumbs down to the next vertebra, flex the limbs as before; and repeat until the sacrum is reached. Place the hand upon the sacrum, pressing very hard as the limbs are raised strongly. Great care must be exercised not to use sufficient strength to injure the patient.

Treatment should be given every other day, and will occupy fifteen or twenty minutes.

UTERINE MALFORMATION.

(The principal varieties are: Rudimentary, Bipartitus, Unicornis, Bicornis, Didelphys, Septus, Infantile, Congenital Atrophy, Complete Absence.)

Not treated successfully by Osteopathy.

ACUTE METRITIS.

(Inflammation of the parenchyma of the uterus, usually associated with endometritis or peritonitis.)

SYMPTOMS.

Similar to those of endometritis, but more severe; elevation of temperature; rapid pulse; pain in pelvis and hypogastrium; uterus enlarged and tender on pressure; nausea; hemorrhage often.

TREATMENT.

1. Place the patient on the face; with the thumbs on each side of the spine, beginning at the upper cervicals, move the muscles upward and outward gently but deep the entire length of the spinal column.

2. Place the hands upon the same side of the spine; beginning at the last dorsal vertebra, move the muscles slightly upward, drawing them slowly outward with a strong pressure, permitting the muscles to slip under the hand. Treat in this manner through the lumbar and sacral regions. Treat the opposite side in a similar manner.

3. Place the patient on the back; the operator grasping the shoulders, as an assistant holds the feet, give gentle extension of the spine.

4. Place the hand lightly over the pubes, and vibrate (pages 36 and 67) one minute.

5. Place the hands upon the sides of the neck, the fingers almost meeting over the upper cervicals; tip the head backward and press quite strongly with the fingers upon the vaso-motor (page 253) four or five minutes.

Treatment will require fifteen or twenty minutes, and should be administered each day until recovery.

CHRONIC METRITIS, AREOLAR HYPERPLASIA, OR DIFFUSE INTERSTITIAL HYPERTROPHY.

(Disorder of nutrition affecting the uterus and characterized by inflammation, hypergenesis, and hyperesthesia.)

SYMPTOMS.

Feeling of weight in the pelvis; pain, radiating to the back and limbs; irritability of the rectum and bladder; the uterus is enlarged, soft, and tender, becoming hard later; menorrhagia; abortion; sterility; reflex neuroses.

TREATMENT.

This disease, in its early stages, responds readily to osteopathic treatment. In its later stages, however, it is not treated with marked success.

1. See Acute Metritis (page 481).
2. General Treatment (page 306).

ACUTE ENDOMETRITIS.

(Inflammation of the lining membrane of the uterus.)

CAUSE.

May be due to cold from exposure during menstruation; vaginitis; excessive venery; or suppressed menstruation.

SYMPTOMS.

Discharge at first watery, later creamy; slight elevation of temperature; dull pain in the back and pelvis; cervix enlarged, soft, and sensitive.

TREATMENT.

See Acute Metritis (page 481).

CHRONIC CORPOREAL ENDOMETRITIS.

(May follow acute attacks or begin as chronic.)

CAUSE.

May be due to retention of secundine products after parturition.

SYMPTOMS.

Pain in the back and pelvic region; dysmenorrhea; menorrhagia; leucorrhea; abortion; and sterility; cervix usually tender and slightly enlarged.

TREATMENT.

See Acute Metritis (page 481), applying such additional treatment as conditions indicate.

ENDOCERVICITIS.

(Chronic inflammation of the lining of the cervix.)

CAUSE.

May be due to extension upward of vaginitis, or downward of corporeal endometritis; uterine flexions; enfeebled constitution, etc.

SYMPTOMS.

Pain in the back and loins; leucorrhæa; menorrhagia; sterility; reflex neuroses.

TREATMENT.

1. General Treatment (page 306), which should be given in a very careful manner.
2. Give such additional treatment as the conditions indicate.

CERVICAL HYPERTROPHY.

(Enlargement of cervix.)

SYMPTOMS.

Sense of weight in the pelvis; leucorrhea; os near the vulva, or may protrude.

TREATMENT.

In its early stages this disease responds very readily and is easily cured by osteopathic treatment. After the hypertrophy has become pronounced, it cannot be benefited by Osteopathy.

1. See Amenorrhea (page 475).
2. Give conjoined manipulations.

CERVICAL STENOSIS.

(Constriction of the cervix. May be congenital or acquired.)

SYMPTOMS.

Dysmenorrhea and sterility.

TREATMENT.

See Amenorrhea (page 475).

CERVICAL LACERATION.

(Tearing of the cervix, due to parturition or abortion.)

SYMPTOMS.

Feeling of weight in the pelvis; neuralgia; menorrhagia; leucorrhea; sterility; reflex neuroses.

Not treated successfully by Osteopathy.

UTERINE ATROPHY.

(Wasting of the uterus; natural condition after menopause.)

CAUSE.

May be caused by removal of ovaries or tubes.

SYMPTOMS.

Amenorrhea; sterility; reflex neuroses.

TREATMENT.

May be benefited by General Treatment (page 306), but not successfully treated by Osteopathy.

UTERINE FIBROID TUMOR.

(Tumor composed of fibro-muscular tissue, situated usually in the body of the uterus.)

SYMPTOMS.

Dysmenorrhea; menorrhagia, followed by metrorrhagia; pain, due to pressure on pelvic nerves, causing neuralgia and numbness; constipation; leucorrhea.

TREATMENT.

1. Place the patient on the side; move the muscles upward and outward gently but very deeply the entire length of the spinal column. Treat the opposite side in a similar manner.

2. Place the patient on the back; flex the limbs strongly against the chest, one at a time, giving strong abduction of the knee and adduction of the foot as the limb is extended.

3. Place the patient on the face; the operator placing the thumbs upon each side of the spine, and close to the second lumbar vertebra, an assistant raises the limbs slowly but quite strongly as far as the patient can stand; move the thumbs down to the next vertebra and raise the limbs as before; and repeat until the sacrum is reached.

In all cases where constipation is manifest, see Constipation (page 150).

4. Manipulate the tumor as thoroughly as possible.

5. Place the hand lightly over the tumor, and give thorough vibration (pages 36 and 67) two minutes.

Treatment should be given every other day, and will require about twenty minutes.

UTERINE POLYPUS.

(Tumor covered by the mucous membrane of the uterus, and attached to that organ by a stem. May be Fibrous, Mucous, Placental, Glandular, or Cellular.)

SYMPTOMS.

Hemorrhages from the mucous membrane; pain; leucorrhea; sterility; anemia; malaise.

TREATMENT.

See Uterine Fibroid Tumor (page 485).

UTERINE CARCINOMA.

(Cancer of the uterus, usually in the cervix.)

SYMPTOMS.

Pain; hemorrhage; offensive discharge; impaired nutrition.

No cure in Osteopathy.

UTERINE SARCOMA.

(A growth of modified embryonic connective tissue, usually in the body of the uterus.)

SYMPTOMS.

Pain; hemorrhage; watery discharge; impaired nutrition. Most frequent between the ages of forty and fifty.

TREATMENT.

See Uterine Fibroid Tumor (page 485).

SALPINGITIS.

(Inflammation of the mucous membrane of the Fallopian tube, usually arising from extension of endometritis.)

SYMPTOMS.

Dragging and burning pain in the region of the tube, especially when walking or standing; dysmenorrhea; peritonitis; tenderness in the lateral vaginal fornix on pressure.

TREATMENT.

1. Place the patient on the face; with the hands both on the same side of and close to the first lumbar vertebra, pressing rather hard, move the muscles slightly upward and strongly outward from the spine, permitting the muscles to slip beneath the hand. Treat in this manner through the lumbar and sacral region. Treat the opposite side in a similar manner.

2. Place the left hand upon the center of the sacrum; passing the right arm under the limbs, raise the limbs slowly but as high as the patient can stand, pressing at the same instant upon the sacrum.

3. Place the patient on the back; the hand of the operator resting lightly over the Fallopian tube, give gentle

vibration (pages 36 and 67) one minute. Treat the opposite tube in a similar manner.

This treatment should be given each day, and will occupy about ten minutes.

OVARITIS.

(Inflammation of the ovary. May be acute or chronic.)

CAUSE.

Generally due to salpingitis, sepsis during parturition, or cold during menstruation.

SYMPTOMS.

Acute form usually accompanies salpingitis or peritonitis. Sharp pain in the ovarian region, radiating to the back; may be pain in micturition and defecation; reflex neuroses. In chronic form symptoms are less marked.

TREATMENT.

See Salpingitis (page 487).

OVARIAN HEMORRHAGE.

CAUSE.

Due to obstructed circulation, tumor, cold during menstruation, diseases of the heart, lungs, etc.

SYMPTOMS.

Ovary enlarged and sensitive to pressure; throbbing pain over the ovary; menorrhagia.

TREATMENT.

See Salpingitis (page 487).

OVARIAN PROLAPSUS.

(Falling down of the ovary.)

CAUSE.

May be due to congestion of the organ or displacement of the uterus.

SYMPTOMS.

Similar to Ovaritis. Ovarian compression; painful defecation, and dyspareunia.

TREATMENT.

1. In case of Displacement of the Uterus, see page 469.

2. Careful but thorough manipulation of the ovaries, with a view to relaxing the muscles in the immediate region and freeing the circulation to the ovaries.

3. Place the hand lightly over the ovary, and vibrate (pages 36 and 67) one minute.

4. Place the patient on the side; one hand of the operator against the sacrum, with the other grasp the knee of the patient, drawing the limbs slowly but quite strongly backward; hold in this position a few seconds. Treat the opposite side in a similar manner.

Treatment should be given every other day, and will occupy fifteen or twenty minutes.

OVARIAN TUMOR.

(May be Fibromata, Sarcomata, Carcinomata, or Cysts.)

SYMPTOMS.

Dull pain over iliac fossa, with sense of fullness or throbbing; dragging pains; dysuria; rectal disorders; fatigue after exertion; localized peritonitis; no leucorrhea or menorrhagia; uterus not enlarged.

TREATMENT.

See Ovarian Prolapsus (page 489).

PAROVARIAN CYST.

(Cyst in the broad ligaments of the uterus, developed from the parovarium.)

SYMPTOMS.

Difficult to distinguish from ovarian cyst, except by tapping.

TREATMENT.

1. See Ovarian Prolapsus (page 489).
2. Manipulate, as thoroughly as possible, the cyst; also vibrate over it one minute.

SIMPLE CATARRHAL VAGINITIS.

(Inflammation of the mucous membrane of the vagina.)

CAUSE.

Due generally to poor health, irritating discharges from the cervix, retention of secretions, etc.

SYMPTOMS.

In acute form, sense of heat and burning in the vagina; pelvic pain; frequent desire to micturate; excoriation of the parts above the vulva; in chronic form, itching and leucorrhea.

TREATMENT.

1. Place the patient on the side; beginning at the upper cervicals, move the muscles upward and outward slowly, gently, but very deep, the entire length of the spinal column, being very careful, but thorough, in all regions where any tenderness or abnormal temperature is manifest.

2. Place one hand under the chin, the other under the occipital bone, and pull slowly but strongly until the body moves.

3. Give gentle extension of the neck, rotating the head from side to side.

4. Flex the limbs, one at a time, slowly but strongly against the abdomen, giving strong abduction of the knee and extending with a light jerk.

5. Pass the finger carefully into the vagina, manipulating the mucous membrane and muscles gently, but as thoroughly as possible.

6. Place the patient on the face; the operator placing one hand upon the center of the sacrum, and passing the other beneath the limbs of the patient, raise the limbs slowly but strongly, pressing at the same instant quite hard upon the sacrum. Care must be exercised not to use sufficient strength to injure the patient.

Treatment will occupy about twenty minutes; an immediate change should be noticed for the better, and a continuation of the treatment, given every other day, will usually effect a cure.

GRANULAR VAGINITIS,

(Inflammation and hypertrophy of the mucous follicles imbedded between the rugæ of the vagina.)

CAUSE.

Result of pregnancy, or simple or specific vaginitis.

SYMPTOMS.

Similar to Simple and Specific Vaginitis, with pruritus vulvæ, lichenous eruptions about the pubes.

TREATMENT.

See Simple Catarrhal Vaginitis (page 490).

SPECIFIC VAGINITIS.

(Inflammation of the vagina, vulva, and urethra, arising from specific contagion.)

SYMPTOMS.

Similar to simple vaginitis; heat and burning in the vagina; heat and sense of weight in the perineum; scalding in micturition, which is frequent; profuse leucorrhea, purulent and offensive in character.

TREATMENT.

See Simple Catarrhal Vaginitis (page 490).

ULCERATIVE VAGINITIS.

(Present, to some extent, in most women over sixty years of age.)

SYMPTOMS.

Scaling of squamous epithelium in spots, and if spots are raw and in apposition, there may be adhesion; usually slight leucorrhea, which irritates the vulva, causing pruritus.

TREATMENT.

See Simple Catarrhal Vaginitis (page 490).

DIPHTHERITIC VAGINITIS.

(Dependent upon constitutional diphtheria.)

SYMPTOMS.

Similar to constitutional diphtheria, with membrane resembling that usually found in the throat. May appear first in the vagina.

TREATMENT.

See Simple Catarrhal Vaginitis (page 490).

ACUTE CATARRHAL VULVITIS.

(Inflammation of the mucous membrane lining the vulva.)

CAUSE.

May be due to uncleanliness, discharges from the cervix or vagina, injury or friction from exercise, parasites, foreign bodies, excessive venery, or eruptive disorders.

SYMPTOMS.

Local pain and burning; parts congested; edematous, and covered with a glairy mucus; excoriating discharges; and general malaise.

TREATMENT.

See Simple Catarrhal Vaginitis (page 490).

CHRONIC CATARRHAL VULVITIS.

(Found most frequently in scrofulous children.)

SYMPTOMS.

Intense itching of the parts; discomfort in micturition and walking; stained linen.

TREATMENT.

See Simple Catarrhal Vaginitis (page 490).

PHLEGMONOUS VULVITIS.

(Suppurative inflammation of the vulva.)

CAUSE.

May be due to irritating discharges, boil or abscess, traumatism, or eruption of the skin.

SYMPTOMS.

Pain and heat, increased by standing or walking; congestion; induration; swelling; and suppuration.

TREATMENT.

See Simple Catarrhal Vaginitis (page 490).

DIPHTHERITIC VULVITIS.

(Dependent upon constitutional diphtheria.)

SYMPTOMS.

Membrane resembles that usually found in the throat. May first appear in the vulva. Symptoms same as Constitutional Diphtheria.

TREATMENT.

See Simple Catarrhal Vaginitis (page 490).

FOLLICULAR VULVITIS.

(Inflammation of the mucous and sebaceous glands and hair-follicles of the vulva.)

CAUSE.

May be caused by uncleanliness, vaginitis, pregnancy, or eruptions of the skin.

SYMPTOMS.

Burning and itching in the vulva, with increased granular secretions; urethra may be inflamed at the vulva extremity; vaginismus; mucous membrane very red in spots; sebaceous ducts and hair-follicles appear as little, round, red papillæ, with a drop of pus appearing in their apices.

TREATMENT.

1. See Simple Catarrhal Vaginitis (page 490).
2. Very thorough and careful manipulation of the muscles in the immediate region of the vulva.

GANGRENOUS VULVITIS.

(Inflammation of the vulva, with mortification of the tissues, dependent upon a depraved condition of the blood, and may develop in puerperal fever, scarlatina, measles, or continued fever.)

SYMPTOMS.

A patch or vesicle of grayish, reddish, or blackish hue, which ulcerates and becomes depressed in swollen and indurated tissues—red in color; gangrene at once sets in; vital forces break down.

TREATMENT.

See Simple Catarrhal Vaginitis (page 490).

If taken in very early stage, relief is often given. If not taken, however, in its earliest stages, this disease is not treated osteopathically with any marked success.

CYST OF VULVO-VAGINAL GLAND.

(May be multiple.)

CAUSE.

Formed by distension of the gland, caused by occlusion of the duct, probably due to inflammation.

TREATMENT.

1. Manipulate the muscles in the immediate region of the gland, gently but very thoroughly, with a view of removing the occlusion of the duct.

2. Knead and manipulate the cyst in a careful but thorough manner.

ABSCESS OF THE VULVO-VAGINAL GLAND.

CAUSE.

May be produced by the same cause as vulvitis.

SYMPTOMS.

Pain, heat, redness, especially near the orifice of the gland; tender on pressure; at first hard, later fluctuating.

TREATMENT.

1. Place the patient on the side; beginning at the first lumbar vertebra, move the muscles upward and outward, to the lower extremity of the sacrum, gently but very deep. Treat the opposite side in a similar manner.

2. Place the patient on the face; the operator placing one hand upon the center of the sacrum, passing the disengaged arm beneath the limbs, raise the limbs slowly but rather strongly, pressing hard at the same instant upon the sacrum. Great care must be exercised not to use sufficient strength to injure the patient.

3. Pass the finger into the vagina, manipulating the parts in such a manner as to free the ducts and circulation to the gland. Also manipulate the abscess gently, but as thoroughly as possible.

Treatment should be given every other day, and will occupy about fifteen minutes.

VULVAR ECZEMA.

(More common in women near the menopause.)

CAUSE.

Generally caused by irritating discharges from the cervix or vagina.

SYMPTOMS.

In acute form, parts become red and edematous; vesicles appear, break, and discharge a tenacious fluid; severe burning and itching. In chronic form, parts become thickened and scaly.

TREATMENT.

See Simple Catarrhal Vaginitis (page 490).

VULVAR ERYSIPELAS.

(Erysipelas of the vulva is accompanied by graver symptoms than when appearing in other parts of the body.)

TREATMENT.

See Simple Catarrhal Vaginitis (page 490).

VULVAR ERYTHEMA.

(Superficial redness of the skin about the vulva.)

CAUSE.

Caused by uncleanliness, irritating discharges, exercise, etc.

SYMPTOMS.

Parts become sensitive, red, excoriated, and painful.

TREATMENT.

If due to irritating discharges, see Simple Catarrhal Vaginitis (page 490).

If caused by uncleanliness, the treatment would be apparent.

VULVAR HYPERESTHESIA.

(Excessive sensibility of the mucous membrane of the vulva.)

CAUSE.

May be due to menopause, hysteria, etc.

SYMPTOMS.

Hyperesthesia about the labia minora and vestibule; no inflammation or pruritus.

TREATMENT.

If due to menopause, see Menopause (page 505).

If due to hysteria, see Hysteria

If due to other causes, the operator should endeavor to apply such treatment as conditions indicate.

PRURITUS VULVAE.

(Irritation of the nerves supplying the vulva, with intense itching.)

CAUSE.

Due to irritating discharges, parasites, eruptions, etc.

SYMPTOMS.

Intense itching at intervals, later constant; sometimes leads to nervous depression.

TREATMENT.

See Simple Catarrhal Vaginitis (page 490).

VAGINISMUS.

(Excessive sensibility of the hymen and vulva outlet, with spasmodic contraction of the sphincter vaginæ muscle.)

CAUSE.

Due to dense hymen, narrow vagina, or disturbance of sexual functions.

Not treated succesfully by Osteopathy.

ACUTE PELVIC PERITONITIS.

(Inflammation of the peritoneum covering the female pelvic viscera.)

CAUSE.

May be due to inflammation of the uterus, ovaries, or tubes, parturition, or abortion.

SYMPTOMS.

Pain and tenderness in the lower abdomen; patient lies on back, with knees elevated; pulse small and rapid; temperature may be 104° to 105°; nausea and vomiting; tympanites; constipation; often metrorrhagia.

TREATMENT.

1. Place the patient on the side; beginning at the first lumbar vertebra, move the muscles upward and outward, gently but deeply, to the lower part of the sacrum. Treat the opposite side in a similar manner.

2. Flex the limbs slowly but quite strongly against the chest; hold a few seconds in this position.

3. Place one hand against the sacrum, with the other draw the limb of the patient slowly backward while pressing hard on the sacrum. Treat the opposite side in a similar manner.

4. The patient lying on the back; the operator places his hand lightly over the pubes, vibrating (pages 36 and 67) gently two minutes.

The above treatment starts the circulation through the pelvic region, thereby reducing the inflammation.

5. Place the hands upon the sides of the neck, the fingers almost meeting over the upper cervicals; tip the head backward, pressing rather hard with the fingers at the same instant; hold in this position three or four minutes. See Vaso-motor (page 253).

This treatment will occupy about fifteen minutes, and should be given each day until recovery.

CHRONIC PELVIC PERITONITIS.

(May follow acute attacks, or may not.)

SYMPTOMS.

Dull pain in the pelvis; usually vesical and rectal irritation; leucorrhea and menorrhagia.

TREATMENT.

See Acute Pelvic Peritonitis (page 499).

Treatment should be given every other day.

PELVIC CELLULITIS.

(Inflammation of cellular tissue of the pelvic peritoneum.)

CAUSE.

Due to parturition, abortion, or operation.

SYMPTOMS.

Rigor; elevation of temperature to 103° to 105°; pulse full and rapid; occasional nausea; no vomiting; may be formation of pus above pubes.

TREATMENT.

See Acute Pelvic Peritonitis (page 499).

VESICO-VAGINAL FISTULA.

(Communication between the bladder and vagina.)

CAUSE.

Usually caused by tedious labor.

SYMPTOMS.

Urinous odor about person; involuntary escape of urine; irritation; and excoriation about the vulva.

No cure in Osteopathy.

RECTO-VAGINAL FISTULA.

(Communication between the rectum and vagina.)

CAUSE.

Usually caused by long-continued pressure during labor.

SYMPTOMS.

Discharge of offensive gas or fecal matter by the vagina.

No cure in Osteopathy.

COCCYGODYNIA.

(Painful affection of the muscles and nerves of the coccyx. Most frequently occurs after child-birth.)

May be caused by a fall, kick, or blow, etc.

SYMPTOMS.

Pain in the coccygeal region, increased by motion or pressure on the coccyx, and on rising after sitting.

TREATMENT.

This disease is usually the result of dislocation of the coccyx, and can be quickly, easily, and permanently cured by reduction of the dislocation. See Dislocation of the Coccyx (page 447).

URETHRAL CARUNCLE.

(Small red fleshy growth at the mouth of the urethra.)

SYMPTOMS.

Frequent and painful micturition; dysuria increases; pain on walking, pressure, or friction; bleeds easily; may be single or multiple.

TREATMENT.

1. Place the patient on the side; beginning at the first lumbar vertebra, move the muscles upward and outward, gently but deep, through the lumbar and sacral regions. Treat the opposite side in a similar manner.

2. Flex the limbs strongly against the chest; hold in

this position a few seconds, giving strong abduction to the knee and adduction to the foot as the limb is extended.

3. Manipulate the muscles in the immediate region of the growth carefully but very deeply, with a view of freeing the venous circulation in the immediate region, an obstruction of which is the true cause of this trouble.

4. Manipulate the caruncle very gently but as thoroughly as possible.

Treatment will occupy about ten minutes, and should be given every third day.

PROLAPSUS URETHRAE.

(Prolapsus of the mucous membrane of the urethra at the meatus urinarius.)

CAUSE.

May be due to frequent child-bearing or vesical and rectal irritation.

SYMPTOMS.

Protrusion at first pink in color, later red, and may become excoriated and sensitive; frequent micturition, becoming painful, and tenesmus.

TREATMENT.

1. Careful but very thorough General Treatment (page 306) to stimulate and equalize the circulation and nerve-wave.

2. If due to rectal or vesical irritation, such additional treatment should be applied as conditions indicate.

PROLAPSUS VAGINAE.

(Falling down of the vaginal walls toward the vulva. Has been known to occur in virgins, and may be associated with vaginal hernia and prolapsus uteri.)

CAUSE.

May be due to frequent parturition, atrophy of the walls, excessive weight, violent effort, vaginitis, etc.

SYMPTOMS.

Sense of discomfort in the vagina, with tendency to bearing down, as if to expel something; feeling of heat, fullness, and throbbing at the vulva; presence of a tumor between the labia, which touch will show to contain no liquid.

TREATMENT.

1. See Simple Catarrhal Vaginitis (page 490).
2. See Displacements of the Uterus (page 469).

VAGINAL HERNIA.

(May be Vesico-vaginal, Recto-vaginal, Entero-vaginal.)

Cystocele consists of descent of the bladder toward the vulva, so as to impinge upon the vaginal canal.

Rectocele occurs similar to cystocele, the posterior wall of the vagina ceasing to give support to the anterior wall of the rectum.

Enterocele consists in descent of the small intestine into the pelvis, encroaching upon the vaginal canal.

No cure in Osteopathy.

ATRESIA VAGINAE.

(Occlusion of the vagina.)

CAUSE.

Generally congenital from maldevelopment.

SYMPTOMS.

Accumulation of menstrual blood; no blood appearing at menstrual period; may produce rupture of hymen or vagina, and cause septicemia.

Not treated successfully by Osteopathy.

PUDENDAL HERNIA.

(Protrusion of the intestines, omentum, ovary, or bladder through the inguinal canal into the labia majora.)

CAUSE.

Caused by a blow, fall, coughing, or violent exertion.

SYMPTOMS.

If intestine gives impulse on coughing; if ovary gives ovarian sensation on pressure; also size and tenderness increased during menstruation.

Not treated successfully by Osteopathy.

PUDENDAL HEMATOCELE.

(Effusion of blood into the tissues of the vulvo-vaginal region, usually into one labium or areolar tissue surrounding the vagina.)

CAUSE.

May be caused by muscular efforts, blows, rupturing the labia, or by punctures.

SYMPTOMS.

Pain and throbbing; swelling first soft, later hard; if effusion reaches urethra, there is obstruction to mucturition.

TREATMENT.

See Simple Catarrhal Vaginitis (page 490), applying the treatment with a view of equalizing the circulation to the

parts involved, manipulating the vagina in such a manner as to stretch the muscles and free the circulation, thereby checking the effusion of blood.

PUDENDAL HEMORRHAGE.

(Hemorrhage from the vulva.)

CAUSE.

Same as Pudendal Hematocele.

TREATMENT.

See Pudendal Hematocele (page 504).

PELVIC HEMATOCELE.

(Effusion of blood into cavity of the pelvic peritoneum.)

CAUSE.

May be due to ruptured extra-uterine fetation sac or tubal abortion.

SYMPTOMS.

Sudden sharp pain; symptoms of shock and hemorrhage; face pallid; pulse rapid and feeble; temperature subnormal; cold perspiration; may be nausea and vomiting; symptoms of peritonitis; tumor bulging down in posterior fornix of vagina.

Not treated successfully by Osteopathy.

MENOPAUSE, OR "CHANGE OF LIFE."

(Final cessation of the menses.)

SYMPTOMS.

While the change is in progress there is commonly more or less functional disturbance of the general health, the nervous system especially manifesting various changes, such as

vertigo, syncope, headache, flushes of heat, urinary troubles, pains in the back extending down the thighs with creeping sensations, heat in the lower part of the abdomen, occasional swelling of the lower extremities, itching of the private parts, mental irritability and restlessness, culminating seriously sometimes, especially in patients of a decided nervous character. Sometimes menstruation ceases abruptly. The monthly period may be arrested by cold, fright, or some illness; earlier in life the suppression would have been followed by a return of menstruation after removal of the cause, but now Nature adopts this opportunity to terminate the function. Gradual termination is, however, more frequent and is attended with less disturbance of health. In gradual extinction one period is missed and then there is a return, a longer time elapses and there is an excessive flow; this continues for a time, the returns being fewer and farther apart, until they cease altogether.

At this critical period there is not infrequently an *enlargement of the abdomen*, which, though it may occur earlier in life, is due to causes peculiar to this.

TREATMENT.

A General Treatment every other day will equalize the circulation and give wonderful relief (page 306).

Obstetrics—Midwifery.

MALE GENERATIVE ORGANS.

The male generative organs consist of the Prostate Gland, Cowper's Glands, the Penis, the Testes, and the Vesiculæ Seminales.

Prostate Gland.—The Prostate Gland is a muscular, glandular body, and is placed around the commencement of the urethra and immediately in front of the neck of the bladder. It is situated in the pelvic cavity behind and below the symphysis pubis, posterior to the deep perineal fascia, resting upon the rectum, When enlarged, it may be distinctly felt through the rectum. It resembles, in size and shape, a horse-chestnut. It measures about $1\frac{1}{2}$ by 1 inch by $\frac{3}{4}$ inch, and weighs about three-fourths of an ounce.

It is perforated by the urethra and ejaculatory ducts. The ejaculatory ducts pass forward obliquely between the middle and each lateral lobe of the prostate, and open into the prostatic portion of the urethra.

The *arteries* which supply the prostate are derived from the internal pudic, vesical, and hemorrhoidal.

The *veins* form a plexus around the sides and base of the prostate; receiving in front the dorsal vein of the penis, and terminating in the internal iliac vein.

The *nerves* are derived from the pelvic plexus.

Cowper's Glands.—Cowper's glands are situated between two layers of the deep perineal fascia, one on each side of the membranous portion of the urethra, close above the bulb.

They are about the size of peas, and gradually diminish as age advances. They consist of several lobules, held together by a fibrous investment. Their excretory ducts are nearly an inch in length, and pass obliquely forward beneath the mucous membrane, opening by a minute orifice on the floor of the bulbous portion of the urethra.

Penis.—The penis is composed of a mass of erectile tissue arranged in three compartments of cylindrical shape, each surrounded by a fibrous sheath, forming numerous bands which divide the compartments into a number of spaces.

The compartments are called the Corpora Cavernosa, and the Corpus Spongiosum.

The penis is the organ of copulation, consisting of a root, body, and extremity, or glans penis.

The **corpora cavernosa** consist of two fibrous cylindrical tubes placed side by side and intimately connected along the median line for their anterior three-fourths, forming the chief part of the body of the penis. A median groove on the upper surface contains the dorsal vein of the penis, while the groove on the under surface receives the corpus spongiosum. The whole of the structure of the corpora cavernosa contained within the fibrous sheath consists of a sponge-like tissue of areolar spaces freely communicating with each other and filled with venous blood.

The *arteries*, on entering the cavernous structure, divide into branches, which are supported and enclosed by the trabeculæ. Some of these terminate in a capillary network, the branches opening directly into the cavernous spaces. They are bound down in spaces by fine fibrous processes, and are more abundant in the back part of the corpora cavernosa.

The blood is returned by a series of vessels, some of which emerge from the base of the glans penis, and converge on the dorsum, to form the dorsal vein. Others pass out on

the upper surface, and join the dorsal vein. The greater number pass out at the root of the penis and join the prostatic plexus.

The **corpus spongiosum** is an erectile tube lying in the inferior groove between the two corpora cavernosa, enclosing the urethra. It forms a rounded enlargement, the bulb, and terminates anteriorly in another expansion, the glans penis, which overlaps the anterior rounded extremity of the corpora cavernosa.

The erectile tissue consists of an intricate venous plexus, supplied by afferent arteries and emptied by efferent veins.

The *nerves* are derived from the internal pudic nerve and the pelvic plexus.

The **glans penis** is of the form of an obtuse comb, flattened from above downward; at its summit is a vertical fissure, the meatus urinarius. The base of the gland forms a rounded projecting border, and behind the corona is a deep constriction, the cervix. Upon both of these parts numerous small glands are found, which secrete a sebaceous matter of peculiar odor.

Testes.—The testes, or **testicles**, are glandular organs, suspended obliquely in the scrotum by the spermatic cords. They secrete a seminal fluid. The testicles measure each about an inch in diameter, and weigh three-fourths to one ounce. They descend before birth to the inguinal canal, along which they pass with the spermatic cord, emerging at the external abdominal ring, and descending into the scrotum.

The **scrotum** is a cutaneous pouch which contains the testes and part of the spermatic cord. Its external aspect varies under different circumstances: Under the influence of warmth and in old and debilitated persons it becomes elongated and flaccid, but under the influence of cold and in

the young and robust it is short, corrugated, and closely applied to the testes.

The **spermatic cord** is composed of arteries, veins, lymphatics, nerves, the excretory ducts of the testicle, and a thin fibrous cord. These structures are connected together by an areolar tissue, and invested by fascia brought down in the descent of the testicle.

The *arteries* of the cord are the spermatic from the aorta, the artery of the vas deferens from the superior vesical, and the cremasteric from the deep epigastric.

The *nerves* are the spermatic plexus from the sympathetic, and filaments from the pelvic plexus.

Vesiculae Seminales.—The seminal vesicles are two lobulated membranous pouches between the rectum and base of the bladder, serving as reservoirs for the semen, also secreting a fluid to be added to the secretion of the testicles. They measure about two and one-half inches in length, about five lines in breadth, and two or three lines in thickness. They vary in size in different individuals and also in the same individual on the two sides. Their upper surface is in contact with the base of the bladder, extending from near the termination of the ureters to the base of the prostate gland. Their under surface rests upon the rectum, from which they are separated by the recto-vesical fascia.

The **ejaculatory ducts,** one on each side, are formed by the junction of the ducts of the vesiculæ seminales with the vasa deferentia. Each duct is about three-fourths of an inch in length, commencing at the base of the prostate and running forward and downward between the middle and lateral lobes and along the sides of the sinus pocularis.

FEMALE GENERATIVE ORGANS.

The female generative organs are divided into the external and internal.

External.—The external are divided into the Mons Veneris, the Labia Majora and Minora, the Clitoris, the Meatus Urinarius, and the Orifice of the Vagina. The term "vulva," as generally applied, includes all these parts.

Mons Veneris.—The mons veneris is a round eminence in front of the pubic symphysis, formed by a collection of fatty tissue beneath the integument.

Labia Majora.—The labia majora are two prominent longitudinal cutaneous folds extending downward from the mons veneris to the anterior boundary of the perineum.

Labia Minora.—The labia minora, or **nymphae**, are two folds of mucous membrane, hidden posteriorly in the labia majora, but anteriorly they embrace the clitoris, forming its prepuce.

Clitoris.—The clitoris is an erectile structure analogous to the corpora cavernosa of the penis. It is situated beneath the anterior commissure, partially hidden between the anterior extremities of the labia minora. The body is short, concealed beneath the labia. The free extremity, or glans clitoridis, is a small rounded tubercle, consisting of spongy erectile tissue, and highly sensitive. It might be called a diminutive penis, like it, being provided with a body, two crura, a glans, prepuce, a suspensory ligament, and with two small muscles, the erectoris clitoridis, inserted into the crura.

The clitoris consists of two corpora cavernosa, composed of erectile tissue invested by a layer of dense fibrous membrane, uniting along their adjacent surfaces by means of an incomplete fibrous pectiniform septum.

The triangular smooth surface between the entrance of the vagina and the clitoris is the *vestibule.*

Meatus Urinarius.—The meatus urinarius is the orifice of the urethra, and is situated near the margin of the vagina, about an inch below the clitoris, at the back part of the vestibule.

Orifice of the Vagina.—The orifice of the vagina is below the meatus urinarius, surrounded by the sphincter vaginæ muscle, and, as a rule, partly closed in the virgin by the hymen.

Other parts comprised in the vulva are the Hymen, Glands of Bartholin, and the Bulbi Vestibuli.

The **hymen** is a membranous fold which closes, to a greater or less extent, the opening of the vagina. It varies much in shape. Its commonest form is that of a ring broadest posteriorly. It is sometimes represented by a semilunar fold with its concave margin turned toward the pubes. It may persist after copulation, so that its presence cannot be depended upon as a sure test of virginity.

The **glands of Bartholin,** one on each side of the vaginal orifice, are analogous to Cowper's glands in the male, present a slightly oblong body about the size of a horse-bean, are of a reddish-yellow color, and the duct of each gland opens on the inner side of the labia minora external to the hymen.

The **bulbi vestibuli** are two large oblong masses, about an inch long, consisting of a venous plexus invested by fibrous membrane, and extend along the sides of the vestibule, from the clitoris. They are considered analogous to the bulb of the corpus spongiosum in the male.

Internal.—The internal organs of generation are the Vagina, the Uterus and its appendages: the Fallopian Tubes, the Ovaries and their Ligaments, and the Round Ligaments.

Vagina.—The vagina is situated in the cavity of the pel-

vis, in front of the rectum, behind the bladder, and extends from the vulva to the uterus. Is is curved upward and backward, at first, in the line of the outlet, and afterward in that of the axis of the cavity of the pelvis. Its walls are usually in contact. Its length is about two and one-half inches along its anterior wall, and three and one-half inches along its posterior wall.

The vagina consists of an internal mucous lining, of a muscular coat, and between the two a layer of erectile tissue.

Uterus.—The uterus is a hollow, pear-shaped, muscular organ, about three inches long, two inches broad, and one inch thick, flattened from before backward, placed base upward, and forming an angle with the vagina, which partially receives its cervix. It is the organ of gestation, receiving the fecundated ovum in its cavity, supporting and retaining it during the development of the fetus, and becoming the principal agent in its expulsion at the time of parturition.

Fallopian Tubes.—The Fallopian tubes, or **oviducts,** are really the ducts of the ovaries. They consist of a serous, muscular (an external longitudinal and an internal circular) layer of non-striped muscle, and a mucous layer, lined by a single layer of ciliated columnar epithelium, but no glands.

They convey the ova from the ovaries to the cavity of the uterus. They are two in number, one on each side, situated in the upper margin of the broad ligament, extending from each superior angle of the uterus to the sides of the pelvis; each tube is about four inches in length. The general direction of the Fallopian tubes is outward, backward, and downward. The uterine opening is minute, and will only admit a fine bristle; the abdominal opening is comparatively much larger.

Ovaries.—The ovaries are oval-shaped bodies, flattened

from above downward, situated one on each side of the uterus in the posterior part of the broad ligament, behind and below the Fallopian tubes. Each ovary is connected by its anterior straight margin to the broad ligament, by its inner extremity to the uterus by a proper ligament, the ligament of the ovary, and by its outer end to the fimbriated extremity of the Fallopian tube. The ovaries are about an inch and a half in length, three-quarters of an inch in width, and about a third of an inch in thickness.

The ovaries are analogous to the testes in the male. Their exact position has been the subject of considerable difference of opinion, and writers differ much as to what is to be regarded as their normal position. They appear to be differently placed in different individuals.

Kölliker asserts that the ovary is placed obliquely in the pelvis, its long axis lying parallel to the external iliac vessels, with its surface directed inward and outward and its convex free border upward. He has made some important observations on the subject and his views are largely accepted. He teaches that the uterus rarely lies symmetrically in the middle of the pelvic cavity, but is generally inclined to one side or the other, most frequently to the left. The position of the two ovaries varies according to the inclination of the uterus. In whichever position the ovary is placed, the Fallopian tube forms a loop around it, the uterine half ascending obliquely over it, and the outer half, including the dilated extremity, descending and bulging freely behind it.

Ligaments of the Ovaries.—The ligament of the ovary is a round fibrous cord extending from the superior angles of the uterus to the ovary at its lower extremity.

Round Ligaments.—The round ligaments are two cords, composed of muscular, fibrous, and areolar tissue, nerves,

and blood-vessels, extending from the fundus uteri to the labia majora. They are said to be analogous to the peritoneal pouch in the male.

The **Graafian follicles**, or **ovisacs**, contain the ova. Immediately beneath the superficial covering is a layer of stroma in which are a large number of minute vesicles of uniform size; these are the **Graafian vesicles** or *follicles* in their earliest condition, and the layer where they have been found has been termed the *cortical layer;* they are especially numerous in the ovary of the young child. After puberty and during the whole of the child-bearing period large and mature, or almost mature, Graafian vesicles are also found in the cortical layer in small numbers and also "corpora lutea," the remains of vesicles which have burst and are undergoing atrophy and absorption. Beneath this superficial stratum other large and more mature Graafian vesicles are found imbedded in the ovarian stroma. These increase in size as they recede from the surface toward a highly vascular stroma in the center of the organ, termed the *medullary substance;* this stroma forms the tissue of the hilum by which the ovary is attached, and through which the blood-vessels enter. It does not contain any Graafian vesicles.

The larger Graafian *follicles* consist of an external fibro-vascular coat connected with the surrounding stroma of the ovary by a network of blood-vessels; and an internal coat, which is lined by a layer of nucleated cells, called the *membrana granulosa.* The fluid contained in the interior of the vesicles is transparent and albuminous. In it is suspended the ovum. In that part of the mature Graafian vesicle which is nearest the surface of the ovary the cells of the membrana granulosa are collected into a mass which projects into the cavity of the vesicle. This is termed the *discus proligerus*, and in this the ovum is imbedded.

The development and maturation of the Graafian vesicles and ova continue uninterruptedly from puberty to the end of the fruitful period of woman's life, while their formation commences before birth. Before puberty the ovaries are small, and the Graafian vesicles contained in them are disposed in a comparatively thin layer in the cortical substance. At puberty the ovaries enlarge, are more vascular, the Graafian vesicles are developed in greater abundance, and their ova are capable of fecundation.

The **discharge of the ovum** is produced by the bursting of the Graafian vesicles after having gradually approached the surface of the ovary. The ovum and fluid contents are liberated and escape on the exterior of the ovary, passing thence into the Fallopian tube.

Puberty.—This term "puberty" is applied to the period at which a human being becomes capable of procreating, which occurs from the thirteenth to the fifteenth year in the female, and the fourteenth to the sixteenth in the male. In warm climates, puberty often occurs in girls even at eight years of age. Toward the fortieth or fiftieth year, the procreative faculty ceases in the female, with the cessation of the menses; this constitutes the menopause, whilst in man the formation of seminal fluid has been observed up to old age. From the period of puberty onward the sexual appetite occurs, and the ripe ova are discharged from the ovary.

Menstruation.—At regular intervals of time, twenty-eight days in the adult female, there is a rupture of one or more ripe Graafian follicles, and at the same time there is a discharge of blood from the external genitals. This process is known as "menstruation," "menses," or "periods." Most women menstruate during the first quarter of the moon, and only a few at full and new moon.

At the **onset** of menstruation there is usually an increased feeling of congestion in the internal generative organs, pain in the back and loins, tension in the region of the uterus and ovaries, which are sensitive to pressure, fatigue in the limbs, alternate feeling of heat and cold, and a slight increase in the temperature of the skin. The process of digestion may be retarded, and there may be variations in the evacuation of the feces and urine. The discharge is at first slimy, afterwards becoming bloody, and lasting three to four days. After cessation of the discharge of blood, there is a small quantity of mucus given off.

The **uterine mucous membrane** is the chief source of the blood. The ciliated epithelium of the swollen, congested, and folded, soft, thick mucous membrane is shed. The orifices of the numerous mucous glands of the mucous membrane are distinct, the glands enlarge, and the cells undergo fatty degeneration, as do also the tissue and the blood-vessels lying between the glands. This degeneration and excretion of the degenerated tissue occurs only in the superficial layers of the mucosa, whose blood-vessels, when torn, yield the blood. The deeper layers remain intact, and from them, after menstruation is over, the new mucous membrane is formed.

Erection.—Erection is due to the overfilling of the penis with blood, whereby the volume of the organ is increased four or five times, while, at the same time, there is also a higher temperature, increased blood-pressure, with at first a pulsatile movement, increased consistence, and erection of the organ.

The *arteries* are controlled by the **nervi erigentes**, which arise chiefly from the second sacral nerves.

As these nerves contain *vaso-dilator fibers*, they can be excited reflexly from the sensory nerves of the penis, the

transference center being in the center for erection in the spinal cord. This reflex can also be discharged by sensory impressions produced by voluntary movements of the genitals; a tendency to induce erection is followed by the thought of sexual impulses.

The **center for erection** in the spinal cord is, however, controlled by the dominating **vaso-dilator center** in the medulla oblongata, and the two centers are connected by fibers within the cord. Stimulation of the upper part of the cord, as by asphyxiated blood, may also be followed by erection. The seminal fluid is frequently found discharged in persons who have been hanged.

The *activity of the cerebrum* has a decided influence on the genital vaso-dilator nerves; as anger or shame is followed by dilatation of the blood-vessels of the head, owing to stimulation of the vaso-dilator fibers, so when the attention is directed to the sexual centers there is an action upon the nervi erigentes.

When the impulse to erection is obtained by the increased supply of arterial blood, the "full completion" of the act is brought about by the activity of the following transversely striped **muscles**: the ischio-cavernosus, the deep transversus perinei, and the bulbo-cavernosus. The contraction of these muscles is partially under control of the will, whereby the erection may be increased; normally, however, their contraction is excited *reflexly* by stimulation of the sensory nerves of the penis.

The imperfect **erection** which occurs **in the female** is confined to the corpora cavernosa clitoridis and the bulbi vestibuli. During erection, the passage from the urethra to the bladder is closed by the swelling of the caput gallinaginis, and partly by the action of the sphincter urethræ, which is connected with the deep transverus perinei.

Emission and Reception of the Semen.—In connection with the emission of the seminal fluid there are two different factors: its **passage** from the testicle to the vesiculæ seminales, and the act of **emission** itself. The first is caused by the newly secreted fluid forcing on that in front of it, by the action of the ciliated epithelium and by the peristaltic movements of the smooth muscular fibers of the vas deferens. Emissions require strong peristaltic contractions of the vasa deferentia and the vesiculæ seminales, which are brought about by the reflex stimulation of the emission center in the spinal cord. As soon as the fluid reaches the **urethra**, there is a rhythmical contraction of the bulbo-cavernosus muscle, whereby the fluid is forcibly ejected from the urethra. The vasa deferentia and vesiculæ do not always eject their contents into the urethra simultaneously. With moderate excitement the contents of only one may be discharged. In the **female**, under normal circumstances, at the height of sexual excitement, there is a reflex movement corresponding to **emission.**

Erection of the Uterus.—The uterus is erected by the powerful contraction of its muscular fibers and round ligaments, while at the same time it descends toward the vagina. Its cavity is more and more diminished, and its mucous contents are forced out. When the uterus relaxes, after the stage of excitement, it aspirates into its cavity the seminal fluid injected into the vagina, but the suction of the greatly excited uterus is not necessary for the reception of the semen. The spermatozoa may wriggle by their own movements from the vagina into the orifice of the uterus.

Fertilization of the Ovum.—The ovum is fertilized by one **spermatozoon** passing into it. The cases of pregnancy where, for some cause (partial closure of the vagina or vulva), the penis has not passed into the vagina during coition, prove

that the spermatozoa can traverse the whole length of the vagina and pass into the uterus.

The sticky surface of the ovum enables the spermatozoön to adhere to it. At the place where the head of the spermatozoön touches the yelk, there is formed opposite to it an elevation of the yelk. After the spermatozoön has penetrated into the yelk, the other spermatozoa are prevented from entering the ovum by the formation of a membrane on the surface of the yelk.

Fertilization occurs either in the ovary or in the Fallopian tube.

THE FETUS.

Nourishment.—The impregnated ovum, during its passage through the oviduct, receives nourishment, first, from the discus proligerus; afterward, by a liquid derived from the mucous membrane of the oviduct. It receives nourishment, after reaching the uterus, from the villi of the chorion and a liquid secretion from the uterine mucous membrane; later, from the umbilical vesicle, the nutrient materials of which are carried to the embryo, through the omphalo-mesenteric veins; finally, the placenta is the chief source of nourishment.

Circulation.—The heart, at this period of embryonic life, consists of a single cavity. The first aortic arches are given off from its upper end; at its lower, the omphalo-mesenteric veins. The blood passes into the body of the embryo, propelled by the heart through the aortic arches, and is then distributed to the vascular area of the umbilical vesicle by the omphalo-mesenteric arteries. It is returned to the heart from the venous sinuses by the omphalo-mesenteric veins. The blood is carried to the fetus from the placenta, rich with nutritive material and oxygen, by the umbilical vein.

It is divided into two currents, after entering at the umbilicus, the larger current passing into the inferior vena cava, while the smaller one enters the liver, and is carried to the vena cava by the hepatic veins. The blood in the inferior vena cava, composed chiefly of pure blood from the placenta, goes to the right auricle, but the Eustachian valve turns the current through the foramen ovale into the left auricle, from which it passes into the left ventricle. The blood from the head and upper extremities passes into the right auricle through the superior vena cava, from which it enters the right ventricle. The blood from the left ventricle supplies the head and upper extremities; the heart, contracting, forces the blood from the left ventricle into the aorta, and from the right ventricle into the pulmonary artery. That which enters the pulmonary artery from the right ventricle passes into the aorta through the ductus arteriosus, somewhat below the point at which the arteries of the head and upper extremities are given off. The impure blood from the right ventricle, after entering the aorta, supplies the trunk, lower extremities, and placenta; passing from the aorta into the internal iliacs, it enters the hypogastric arteries, and thus is returned to the placenta.

Secretory Organs.—A short time before the fifth month the sebaceous glands begin to develop, and their secretion is seen about two weeks later. The liver is developed about the fifth month, and forms bile which passes into the large and small intestine. The kidneys secrete during the latter half of intra-uterine life, and it is probable that the fetus voids its urine into the liquor amnii.

Movements.—The movements of the fetus are recognized by the mother at about four and one-half months. It is probable that it moves its upper and lower extremities as early as the twelfth or sixteenth week. The fetus cannot

see, hear, or smell. Taste is the first sense developed, and has been shown to exist in a child born at seven months.

Changes after Birth.—After respiration is established, the ductus arteriosus begins immediately to contract, and is completely closed in from two to ten days. By the tenth day the foramen ovale is closed. It occasionally remains permanently open. This condition is known as cyanosis neonatorum. In from two to five days the umbilical veins and ductus venosus are obliterated, the former becoming the round ligament of the liver.

SIGNS OF PREGNANCY.

Absence of the menses.
Nausea and vomiting.
Enlargement and tingling sensations in the breast.
Nervous disorders.
Salivation.
Irritability of the bladder.
Leucorrhea.
Abnormal temperature.
Quickening.
Changes in the vagina.
Changes in the cervix and os uteri.
Change of shape and size of the uterus.
Intermittent contractions of the uterus.
Uterine fluctuations.
Movements of the fetus.

LABOR.

(Labor is the process by which the fetus and its appendages are separated from the mother, and is the physiological end of pregnancy.)

SYMPTOMS.

Descent of the Uterus.—Descent of the uterus usually occurs from one to two weeks prior to labor; in some

instances only one or two days, and in others one month prior to confinement. The waist of the patient becomes smaller, respiration less difficult, and the pressure upon the stomach is relieved as the fetal head, enclosed by the lower portion of the uterus, descends into the cavity of the pelvis. The bladder and rectum become irritable after the sinking of the uterus, and there is difficulty in locomotion, while the edema of the lower limbs is increased.

Secretions.—There is a glairy secretion from the glands of the cervix, which becomes mixed with blood as labor approaches. A profuse discharge indicates that the cervix will dilate rapidly.

Changes in the Organs.—The vagina and external genitals are swollen and covered by a copious secretion, and the vagina becomes moist and relaxed, while the labia majora are separated.

Contractions.—Painful uterine contractions occur, causing little or no discomfort in the primiparæ, while in the multiparæ they often become painful several days before labor.

Indications.—The conditions which indicate that labor has begun are effacement and dilatation of the cervix, with uterine contractions regularly recurring.

Stages.—Labor is divided into **three stages.** The **first** stage ends with the complete dilatation of the cervix. The **second** stage begins after the cervix is dilated, ending with the expulsion of the child. The **third** stage includes the detachment and the expulsion of the placenta.

First Stage.—In the first stage the pains are "acute," "grinding," or "cutting," beginning in the lumbo-sacral region, and extending to the pubes, radiating down the thighs. The contractions of the uterus, the compression of

the uterine nerves, and dilatation of the cervix are the causes of the pain.

Second Stage.—In the second stage there is a sensation of tearing and stretching. They are spoken of as "bearing-down" pains. The abdominal muscles are now brought into play, increasing, by their contractions, the suffering of the patient. Cramps occur in the legs; there is a sense of tearing apart of the perineum and the vulvo-vaginal canal; there is also a sensation of tenesmus in the rectum. The causes of these pains are obviously the pressure exerted by the fetus upon the nerves and organs of the pelvis, and the stretching of the pelvic soft parts.

Dilatation of the Cervix.—The uterine cavity decreases in size as the os dilates, and the action of the muscular fibers of the body of the uterus draws the cervix up over the advancing part of the fetus. At the commencement of the uterine contraction the cervix becomes irregular, as if puckered, thicker, and the os decreases in size. A little later, however, the os increases in size and the cervix becomes thin. As dilatation of the cervix advances the decrease in the size of the os does not take place at the beginning of a contraction.

The dilatation is more rapid as the second stage advances; the cervix no longer points posteriorly and toward the left, but assumes a more central position. The longitudinal muscular fibers of the body and the fundus of the uterus overcome the action of the circular fibers of the cervix, and tend to pull it open.

Water-Bag.—The water-bag encloses the liquor amnii, projecting through the os uteri. It is first shaped like the crystal of a watch, but becomes hemispherical later. The size and form of the bag of water depends upon the presentation of the fetus and upon the extent of the dilatation

of the os. The bag usually ruptures at the time the dilatation of the cervix is complete.

Abdominal Muscles.—The muscles of the abdomen assist the uterus in the expulsion of the fetus during the second stage of labor. Their action is voluntary, until the head is being expelled from the vulva, when the patient loses all control, and reflex action takes place.

Dilatation of the Vagina.—The vagina is dilated by the descent of the presenting part, offering but little resistance, except at its orifice, where the head may be delayed. At each contraction the head advances, but recedes again in the interval of the utero-abdominal effort. This process is continued until the parietal protuberances escape from the vulva, when it becomes fixed. Almost immediately a strong contraction follows, and the head is born. A short interval of rest usually follows, and the body is expelled by a renewal of the contractions. The birth of the child is followed by a discharge of liquor amnii mixed with blood.

Third Stage—Detachment of the Placenta.—The placenta is usually expelled in from ten to twenty minutes. The blood becoming clotted in the mouths of the vessels, and chiefly through uterine retraction, prevents hemorrhage, the muscular fibers of the uterus acting as living ligatures. Its detachment is accomplished by uterine retraction. The placenta is expelled by contraction of the uterus, assisted by voluntary efforts, and is detached almost simultaneously in all parts.

Effects of Labor on the Mother.—The arterial pressure is increased during the uterine contractions, and the pulse becomes more rapid, declining again in the interval of pain. The respirations become slower during the pains, and more rapid in the intervals. The temperature rises as labor advances. During the first stage vomiting may occur, but

has no significance. If, during the second stage, weak uterine contractions and exhaustion is accompanied by vomiting, immediate delivery is indicated.

The duration of labor averages about seventeen hours in primiparæ; in multiparæ, about twelve hours.

Arrangement of Bed.—The bed should be so placed as to allow access from both sides. Upon it should be placed a mattress made of some firm material. Over the lower portion of the mattress spread a rubber cloth, to protect it, and over this spread a comforter or blanket. Over the comforter place a folded sheet, and over the upper part of the mattress place another sheet folded once upon itself. Remove the rubber cloth and everything upon it after labor, and bring down over the lower half of the mattress the lower half of the upper sheet.

The clothing of the patient should be raised upon the hips, and a sheet folded once secured to it by means of safety pins. After delivery, remove the sheet and bring the clothing down over the hips and limbs.

MANAGEMENT.

First Stage.—The urine should be passed frequently, and the catheter used should there be retention. If the rectum is found to contain feces, it should be emptied at once by an injection of soap and water. If the membranes do not rupture as soon as the cervix is fully dilated, they should be ruptured; this may be readily accomplished with the end of a hairpin pressed against the amniotic pouch during a contraction of the uterus, or the membrane may be broken with the nail of the index finger during a pain. The dilatation of the cervix should not be artificially interfered with, but left to Nature in normal labor.

TREATMENT.

As the dilatation of the cervix and descent of the head into the pelvis are favored by a sitting or upright posture, the patient should not be permitted to lie down, until the pain has become rather severe, when the operator should place the hand just above the pubes, pressing the muscles gently downward, and placing the index and second finger upon either side of and against the clitoris. A pressure at this point causes the circular fibers around the os uteri to relax without pain. This pressure should be continued until the cervix is fully dilated and the head of the fetus has reached the floor of the pelvis. If the fingers are removed for an instant, the patient will suffer intense pain, while instant relief is the result of a continuation of the pressure.

TREATMENT.

Second Stage.—As soon as the cervix is fully dilated, remove the fingers from the clitoris, and apply a strong pressure upon either side and very close to the spinous processes of the three lower lumbar vertebræ. As long as this pressure is continued the labor will proceed very rapidly, and with scarcely any pain, comparatively, up to the time of delivery, when two or three very severe pains may be expected. At this time the patient should assume the left lateral position. This position lessens the danger of rupturing the perineum, and enables the operator to make such manipulations as may be needed. If the perineum is not sufficiently relaxed to allow the escape of the head without producing a laceration, it should be retarded by direct pressure; the knees of the patient should be drawn toward the abdomen, and a folded pillow placed between them. Place the left hand over the right thigh of the patient, and with the thumb on the occiput, and the fingers on the anterior

part of the fetal head, hold it back during contraction. Support the perineum with the right hand, placed in such a position that the fold between the thumb and index finger is in relation with the anterior edge; press gently in the direction of the symphysis, during a pain. It is sometimes advisable to introduce one or two fingers into the rectum, and draw the perineum forward toward the symphysis, at the same instant retarding the progress of the head by a pressure of the thumb. After the head is delivered, it should be held in the right hand, while the left placed upon the abdomen follows the uterus as it descends, and forces out the body.

Enlarge the loop, if the cord is coiled around the neck, and draw carefully over the child's head, or deliver the shoulders and body through the loop, or, failing in this, ligate each end, and divide the cord. Always support the perineum during the delivery of the shoulders. The most common delay is caused by an arrest of the anterior shoulder beneath the symphysis. Under such circumstances, make traction directly downward with the hands placed on the sides of the head. To assist in the expulsion of the posterior shoulder, it may be necessary to direct the head toward the symphysis, at the same time making slight traction. After the shoulders are delivered, the body is rapidly expelled.

In all **obstetrical cases** in which Osteopathy has been applied the results have been something remarkable, the hours of confinement being reduced about two thirds, while, if the treatment is applied correctly, the pain is reduced to a minimum.

It appears that a *pressure upon the sides of the clitoris* in the **first stage** of labor, and a strong *pressure upon the lower lumbar region* in the **second stage**, cause the parts to relax in such a manner as to obviate, with proper attention,

all danger of laceration, in all instances, except those in which a malformation in the pelvis or an abnormally large head in the fetus would necessitate the use of surgical instruments.

MANAGEMENT.

The Child.—The child should be placed away from the mother's discharges, near the side of the bed, care being exercised not to pull upon the cord. Clear the mucus from the throat and mouth with the finger, and if respiration does not occur, place the child in a basin of hot water, leaving the chest exposed, after which, dash cold water upon it, until breathing is established. Under osteopathic treatment it is seldom necessary to resort either to the above or to artificial respiration

Tying the Cord.—Tie the cord about three fingerbreadths from the umbilicus with one ligature, the other at a distance of two inches from the first toward the placenta. The cord should not be tied until after the child breathes freely and the pulsations have decreased in force. Always examine the cut surface of the cord to see if the ligature has been applied correctly before handing the child to the nurse. Under certain circumstances it is advisable not to ligate the cord until the pulsations have entirely ceased. The advantages of this plan are that the child receives more blood and loses less weight during the first week following birth, and is especially indicated in children who are poorly nourished or who are born prematurely.

Third Stage.—After delivery of the child, the mother should be placed upon the back, while the nurse, immediately after the birth, should place her hand over the uterus and keep it in that position until the operator is ready to attend to the delivery of the placenta.

TREATMENT.

Immediately after tying and severing the cord, and before the delivery of the placenta, the operator should flex the patient's limbs, one at a time, upon the abdomen; while in this position, place the chin over the patient's knee, one hand upon the great trochanter, the other grasping the ankle; with the chin give gentle but strong abduction to the knee, press hard with the hand upon the trochanter, and with the other hand adduct the foot as the limb is gently extended. Treat the opposite limb in a similar manner.

This treatment will not occupy over one minute, and should never be omitted, as patients treated in this manner never suffer with pain in the hips and thighs, and are able walk with comfort at a much earlier period.

To Deliver the Placenta.—Make very gentle but rather strong friction over the body and fundus of the uterus, through the wall of the abdomen. The placenta is usually expelled from the uterus after three or four uterine contractions. During this period an assistant should make gentle but rather strong pressure upon the two or three lower vertebræ, as this pressure reduces the pain, without in the least affecting the strength of the uterine contractions. After the placenta has been expelled into the vagina, traction may be made upon the cord, and extraction slowly accomplished, at the same time keeping up a pressure upon the fundus of the uterus. If the placenta is gradually removed, there is no danger of any part of the membrane being torn. It is advisable, however, that the placenta should be removed with two or three revolutions, so as to twist the membranes into a rope.

MANAGEMENT.

Binder.—The binder should extend from the ensiform cartilage to the trochanters, and be pinned securely with

safety pins. Unbleached muslin makes a good bandage. Should it become necessary to use compression over the uterus, three firm rolls should be made of as many towels rather thicker than the wrist; place one of them transversely just above the uterus, and the other two at the sides of the uterus, pinning the bandage firmly over them.

Washing the Child.—The vernix caseosa should be softened with the yelk of an egg and some oily substance, and removed. The temperature of the bath should be about 98 degrees. A very fine soap should be used to cleanse the child, as the common article is apt to irritate the skin. The child should be carefully dried and the belly-band applied after bathing.

Bandage.—The bandage around the child's body should be loose when first applied; otherwise, on account of the increase of the pulmonary capacity, it may become too tight in the course of a few hours.

REMARKS.

We consider that the **greatest triumph of Osteopathy** is in the treatment of **diseases of women** and in **obstetrics.**

Of the many obstetrical cases that have come under our observation, we have never met with a single instance in which the results were not entirely satisfactory.

We might mention in this connection the case of a lady, who, in two previous confinements, had narrowly escaped death, the labor being prolonged on each occasion over forty-eight hours, and it being months before she had entirely recovered. Upon both of these occasions the case was in charge of the best obstetricians that money could procure. Under osteopathic treatment, in her third confinement, the labor lasted but a little over two hours, and upon the seventh day she was enjoying her usual health.

We might mention many other cases equally remarkable, and feel that we are justified in making the assertion that in all cases, where some malformation does not render it absolutely necessary to use instruments, the above treatment, properly administered, will reduce the time of labor and suffering of the patient at least three-fourths.

In case of delayed uterine contraction, before the placenta is expelled, wring a towel out of cold water, fold it two or three times, and lay it on the mother's abdomen, which will cause the uterus to immediately contract and expel the placenta.

It is always advisable, immediately after the delivery of the placenta, to inject a pint of cold water into the uterus, thus causing the uterus to contract, and obviating the danger of hemorrhage.

The mother should have a hot vaginal douche daily during the first twelve or fourteen days after confinement.

The mother should be permitted to lie in any position she may desire after confinement; the old custom of keeping the patient on the back for a number of days being a prolific source of "milk-leg."

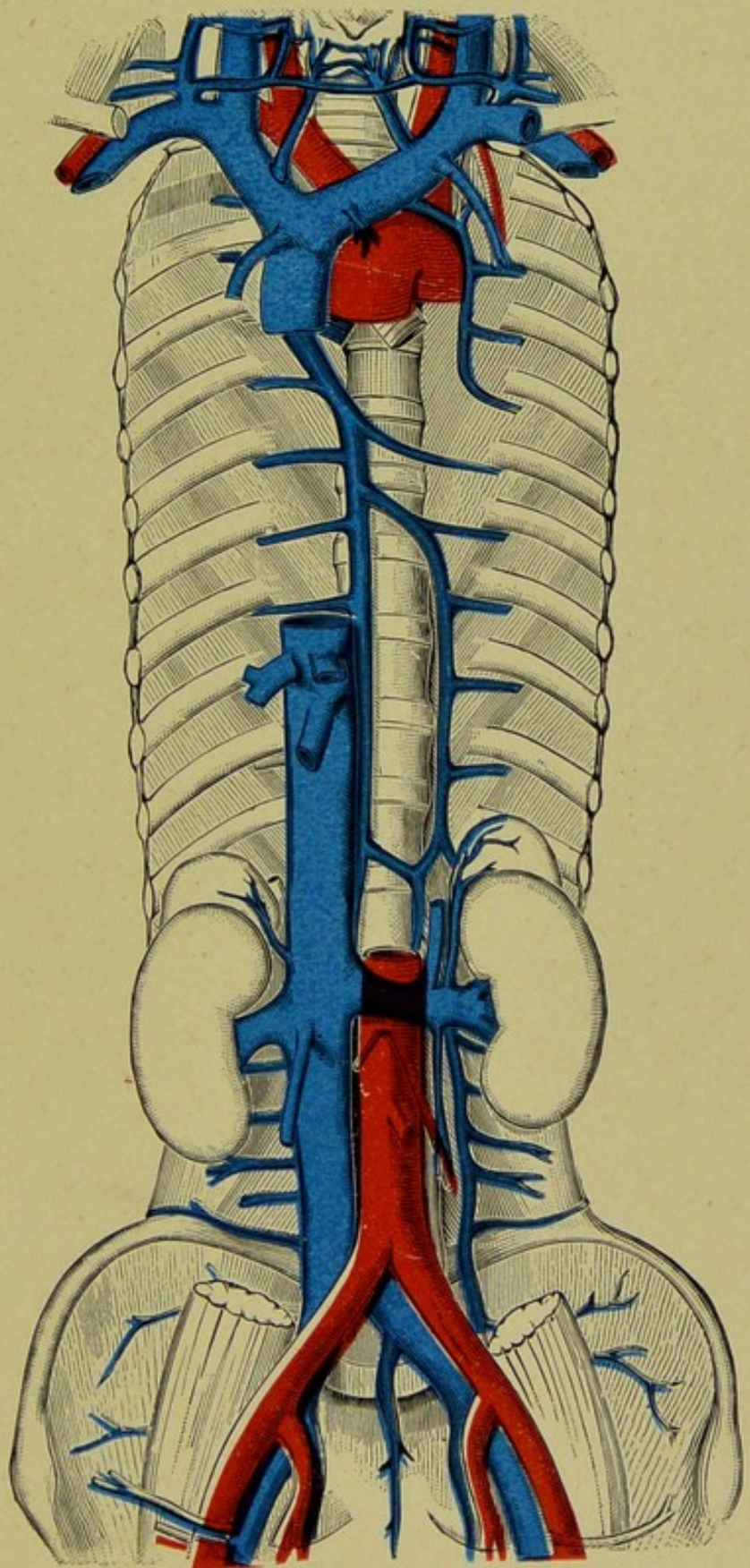
"Milk-leg" usually ocurs in the left leg, from the fact that the right common iliac artery lies immediately over the left common iliac vein, thereby acting as a ligature, obstructing the return current of blood, when the patient is kept lying upon the back. (See cut 50.)

MASTITIS, OR GATHERED BREASTS.

(Inflammation of the breasts; may terminate in suppuration.)

SYMPTOMS.

When inflammation occurs in the tissues behind the breast and on which it is placed, the pain is severe, throbbing, deep-seated, and increased by moving the arm and shoulder;



Cut 50.—The Iliac Arteries and Veins.

the breast becomes swollen, red, and more prominent, being pushed forward by the abscess behind. Sometimes, but less frequently, the breast itself is involved, when the pain becomes very acute and cutting, the swelling very considerable, and there is much constitutional disturbance—quick, full pulse, hot skin, thirst, headache, sleeplessness, etc. This variety of gathered breasts is preceded by *rigors* (shivering fits), followed by heat.

TREATMENT.

1. Raise the arms high above the head, with the knee between the shoulders, lowering the arms with a backward motion.

2. Move all the muscles near the breasts very deeply.

3. Move the breasts gently in all directions, raising them up and endeavoring to free all the glands, muscles, and circulation.

Treat every few hours. Immediate relief, and a cure in a very short time, will be the result.

PHLEGMASIA ALBA DOLENS, OR "MILK-LEG."

(Acute edema from venous obstruction, usually in the left leg.)

SYMPTOMS.

Swelling, pain, and general fever.

TREATMENT.

1. Flex the limb gently but strongly against the abdomen; giving strong abduction of the knee and adduction of the foot as the limb is extended.

2. Grasping the limb close to the thigh, with one hand on each side, move the flesh gently but deep the entire length of the limb.

3. Flex the limb and cause the patient to lie in such a position as to relieve the pressure on the left common iliac vein (see cut 50).

Treatment should be given each day. In acute cases a speedy recovery may be expected. In chronic cases from four to twelve weeks may be required.

PUERPERAL SEPTICEMIA, PUERPERAL FEVER, OR "CHILD-BED FEVER."

(An acute febrile affection, heterogenetic and contagious, peculiar to women in childbirth.)

SYMPTOMS.

Chill; fever; usually occurring about the third day; lochia diminished or arrested; secretion of milk lessened; severe pain on pressure; nausea and vomiting; constipation; urine becomes scanty and high-colored; pulse varies from 100 to 150; jaundice may occur; temperature often reaches 105; finally terminates in convalescence or typhoid fever. Often mistaken for malarial fever.

TREATMENT.

1. Place the patient on the side; beginning at the upper cervicals, move the muscles upward and outward gently but thoroughly the entire length of the spinal column.

2. Flex the limbs, one at a time, slowly but strongly against the abdomen, abducting the knee and adducting the foot as the limb is gently extended.

3. Place the hands on each side of the neck, the fingers almost meeting over the upper cervicals; tip the head gently backward, pressing quite strongly at the same time upon the vaso-motor (page 253).

4. Large injections of cool water should be given each day to free the bowels; also give hot vaginal douches each day, and oftener, if necessary.

PUERPERAL MANIA.

(Delirium or madness, often following labor.)

TREATMENT.

1. See Puerperal Septicemia (page 536.)
2. Thorough Treatment of the Neck (page 393).

Dietetics.

Dietetics, which, properly defined, is that branch of hygiene which relates to the proper use of food, so as to adapt the quantity and quality of the diet to the particular state of each person, and to extract the greatest quantity of nutriment from a given quantity of nutritive matter, is a subject of vast import to all, and altogether too generally disregarded.

Naturally, it has been copiously written upon, and while, as on most all other subjects, there have been not only slight variations of opinion, but complete conflict, many physiological truths have undoubtedly been evolved, and some things of importance, perhaps, discovered and set forth by nearly every thinker, observer, experimentalist, and author. However, there is no system of government, of religion, of ethics, of philosophy, or of science that is complete in the knowledge of men, nor can there be, in real sense, a perfect system outside of that which comprises all, and which is the Creator's handiwork, and is under the laws of the Omnipotent. Man is finite and limited in conception and execution. He gets but glimpses of the truth—the superficial view of things. He succeeds in tracing nothing to its beginning or ultimate termination, and rarely sees more than a few of the numerous sides, colors, and shapes.

But we are now in an age of intense progress. The social world is vigorously combating selfishness and injustice, and establishing systems of equity; the mechanical world is making gigantic strides; the scientific world is rapidly dis-

engaging itself from mere theories, hypotheses, and guess-work, and, with Nature as a guide, applying her principles. is effectually proving their efficacy by the results obtained. All are getting nearer to Nature.

There is, though, a tendency, and it is a thing to be regretted, that founders and practitioners of new methods, however good they may be, are unable or unwilling to perceive good in other methods than their own.

We ought ever to be on the watch for, and have our eyes and ears accessible to, truths, that we may be enabled to grasp and take possession of them, though they eject us from our fostered opinions or trodden paths of life. To decline to consider truth because not prevalent or popular, or because it appears antagonistic to the settled course of our past existence, is to render verdict without evidence.

No mere prejudice should be allowed to influence the osteopath in accepting or repelling established facts. There are methods of accelerating and effecting cures besides righting displacements, which students of therapeutics may easily discover.

In considering the subject of dietetics, it may be divided into three parts, viz.:

1. When to eat.
2. What to eat.
3. How to eat.

Almost the entire attention of dietarians has been directed to the latter two, while the former has been regarded (or, rather, disregarded) as settled by the established habit of the people.

But how fortunate for humankind that occasionally a Franklin swings wide the door, looks into the household, and discovers within the immutable workings of Nature.

The above division of the subject could well have begun

with "Why" to eat. In everything we do, in order to perform the work properly, there must be an aim, an end to be accomplished. Nature in all her varied forms and functions has a definite object, the attainment of which we perceive everywhere in cause and effect.

To understand some of these important purposes, observation and investigation is being pursued now as never before, and the value of the discoveries rated by results rather than theory.

The taking of food, then, is designed to succor some special want.

History is so replete with reminders showing how mankind are wont to differ in opinions, even in regard to the simplest commonplace matters of life, that it can hardly be wondered at that people, even at the present time, are not familiar with the correct nature of these deeper subjects, and that they are often confounded.

If in many matters we apprehended their true significance, undoubtedly our tactics would effectually change.

Too many, alas! think, or at least infer by their actions, that the sole object is attained if they can succeed in introducing food, as much of it as possible, and without regard to quality, into their perhaps delicate and overworked stomachs.

It is a common fault that vastly more food is taken than is physiologically required, thus not only affecting metabolic equilibrium, but overtaxing the digestive organs and the nervous system.

It is not the quantity or quality of food taken into the stomach, but the amount and kind digested, absorbed, and made use of in the economy, that gives us good blood, nerves, muscles, bones, and fat.

Perfect digestion will insure good assimilation and

nutrition; but if poor, the blood is furnished half-digested, fermented material, irritating the nerves and organs. The result may be disease, the weakest part or organ giving way first.

Food replaces the waste of the body tissues—this is the end of food, the "'why' to eat." We get our exhausted strength back by rest and sleep—our waste restored by food.

To those of insight this fact will immediately present itself as a principle of great meaning, and is especially a striking feature to be well considered by brain-workers who have but little manual labor to perform.

Much might be said as to the necessity of the requisite amount of sleep; and of the need of not permitting undue mental or physical work to directly impair digestive power. But the college of experience is a perpetual fountain of enlightenment.

In entering upon the consideration of when to eat, it is with the utmost confidence, inspired by those who have tested the "better way of living," and knowledge, gained through experience, that to abstain from all nutriment until the vital power within shall have put the living organism in such a normal condition as to demand pabulum for the renewal of wasted tissue, or a further supply for the production of animal heat through the medium of a divine-given instinct, is to clear the complexion; reduce surplus fat; restore lack of flesh; feel conscious of a better digestion; reveal the power of the soul within through the sparkling eyes; brighten the source of all physical, mental, and moral energy; disperse any tendency to fullness of the face and flushness in the head; bring keenness of appetite, and such enjoyment of meals as childhood days only knew; experience a lightness and quickness of step, a more elastic spring in all the limbs, and an absence of the fullness and unpleasantness after

eating, so often felt before; and to know that the food does not lie so long in the stomach—the useful organ has gone out of the gas-producing business.

In illness, to urge nutriment prior to completion of "destructive assimilation" and the recurrence of a natural desire for food only tends to burden and retard vital action, and to lessen the chance of recovery for the sick.

There is a remedy, that is the greatest of all, to create hunger, a genuine appetizer, one that you will undoubtedly habitually make use of when you learn of its natural adaptability and effectiveness, for it never fails to cause the keenest hunger, relish, and delight, is absolutely safe in its operation, and available to all. By its constant use eating becomes a luxury.

The sense of refreshment does not come when food is taken without hunger, even in health, as there is restriction of both digestion and absorption.

The mucous lining of the stomach is both an excretory and absorbing membrane; it despatches its wonderful solvent juices when hunger suggests the need. There is immediate digestion, immediate absorption, and an immediate and continuous feeling of refreshment until hunger is satiated, which is one of the most keenly delightful in human experiences.

But what is hunger? The identity of true hunger is so apt to be confused with acquired appetite or morbid craving that the uninitiated are likely to arrive at a too sudden conclusion.

Dr. Dewey, the originator of the "no breakfast" method and author of "The New Science of Living: The New Gospel of Health," a grand book of life—a gleam of life in every sentence and on every page a glow of precious truth,—defines hunger as "a condition arising from general activi-

ties, attended with a sense of fatigue and a desire for nourishing food." In other words, it is a call for both rest and refreshment—rest first, food next. This need must always depend upon the degree of exhaustion of the brain batteries and the loss through the muscle activities. Hunger is a sense that is meant to express the degree of waste, but it is so involved with brain fatigue that it is seldom manifest in a natural way. Only the laborer in the free fresh air who has no mental taxing can have the most natural hunger.

As a rule, mind-workers eat vastly more than waste indicates.

What need can there be to tax the digestive powers and the power-house of the human plant—the brain—in the morning, after a night's sleep and rest which has recharged the electric batteries with renewed strength, restored the whole system to its physiological balance, and occasioned but very little waste of the body materials?

There is ample ground by which to determine that the omission of the morning meal is based on the soundest physiology.

"But," you say, "I am hungry in the morning. I cannot give up breakfast. Breakfast is my best meal. I have always eaten breakfast. I could not do my forenoon's work if my breakfast were denied me. I would be too weak. I believe I would faint."

My friend, think.

Is it not possible that your morning desire is not a natural hunger, but seeming hunger, being only appetite, the acquired result of a life-long untimely meal, thus only an impetus of the force of habit?

We are such creatures of circumstances, such slaves to acquired habit.

If the tippler's craving for his morning dram, the smok-

er's draft of the stinging weed, or any of the numerous habitudes of the day which are not physiological, but still persisted in, because, even with the realization of their damnific traits, they think they "cannot do without it," and will not appoint minds quartermaster over their sensualities, is any argument tending to convince that your morning impulse may be but the response to the impressive tinkling of Mr. Habit's bell, then couple this with the easily deducible fact that morning hunger, after a sufficient period of invigorating sleep, is a physiological impossibility.

By transferring the first meal to the noonday hour, or waiting until adequate waste-producing exertions to guarantee a natural calling for pabulum, and insure a more vigorous digestion and rapid absorption, the changes for the better, bodily and mentally, will soon decide the future course of action that should be pursued.

By following this physiological method of living your friends will soon notice the change that is being wrought within you, and it will require no scrutinizing to detect your increased store of cheerfulness.

Cheer of mind is a primal law of life. Cheer is to digestive energy what a current of air is to the flame. There cannot be even a slight dejection without proportionately reducing the supply of the supporting and constructive materials, by diminishing the very motive power of the digestive function, and causing not apparent, but real exhaustion or decrease of mental and physical power.

It may be thought that if no breakfast is eaten, then a late supper would be advantageous. This is erroneous. There should be completion of digestion before the condition of sleep is entered.

It is Nature's design that digestion should take place after the general muscular activities have generated a de-

mand, and with the body in an upright attitude. To be performed aright, this is requisite; and the infliction of penalty for every non-observance of Nature's laws is infallible. The erect posture facilitates the circular movement, known as peristaltic action, of the food around the walls of the stomach. In the lying posture the pressure of the food affects the dependent portions of the stomach, and the mechanical operation is imperfect; besides, in this position, especially during sleep, there is the minimum necessity for digestive energy, there being so little waste from cell-destruction.

The sympathies and relations between the stomach and the batteries of the brain are very intimate, and a constant call is made upon these batteries to furnish power during the process of digestion. Digestion is a tax upon the brain centers under the best of digestive conditions; one that involves loss of mental and physical energy during its active stage.

There can be no complete rest or recharging of the exhausted batteries if masses of fermenting food disturb and compel them to action.

Many are beginning to realize that the amount and the food to be passed through the alimentary canal, in order to produce rich blood, preserve the health of body and mind, and prolong life, must be from a physiological standpoint. Some who are living—and very well—on only one meal a day, taken at the meridional hour, would not turn back to the old way, and have indeed good reasons to be enthusiastic.

Good works can be procured on the quality and pureness of food, and it is desirable to have knowledge of their nature, but it will be a surprise to those who adopt the "better way" what a splendid judge of the bill of fare natural hunger is.

The food should be thoroughly masticated and mixed

with saliva for reasons we all are familiar with, but too careless about.

Abolishing the habit of drinking at meals will incite slower eating and more thorough mastication and insalivation.

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