

The vegetable materia medica and practice of medicine / by ... Abel Tennant. Containing in detail his practical knowledge of American remedies, in curing diseases.

Contributors

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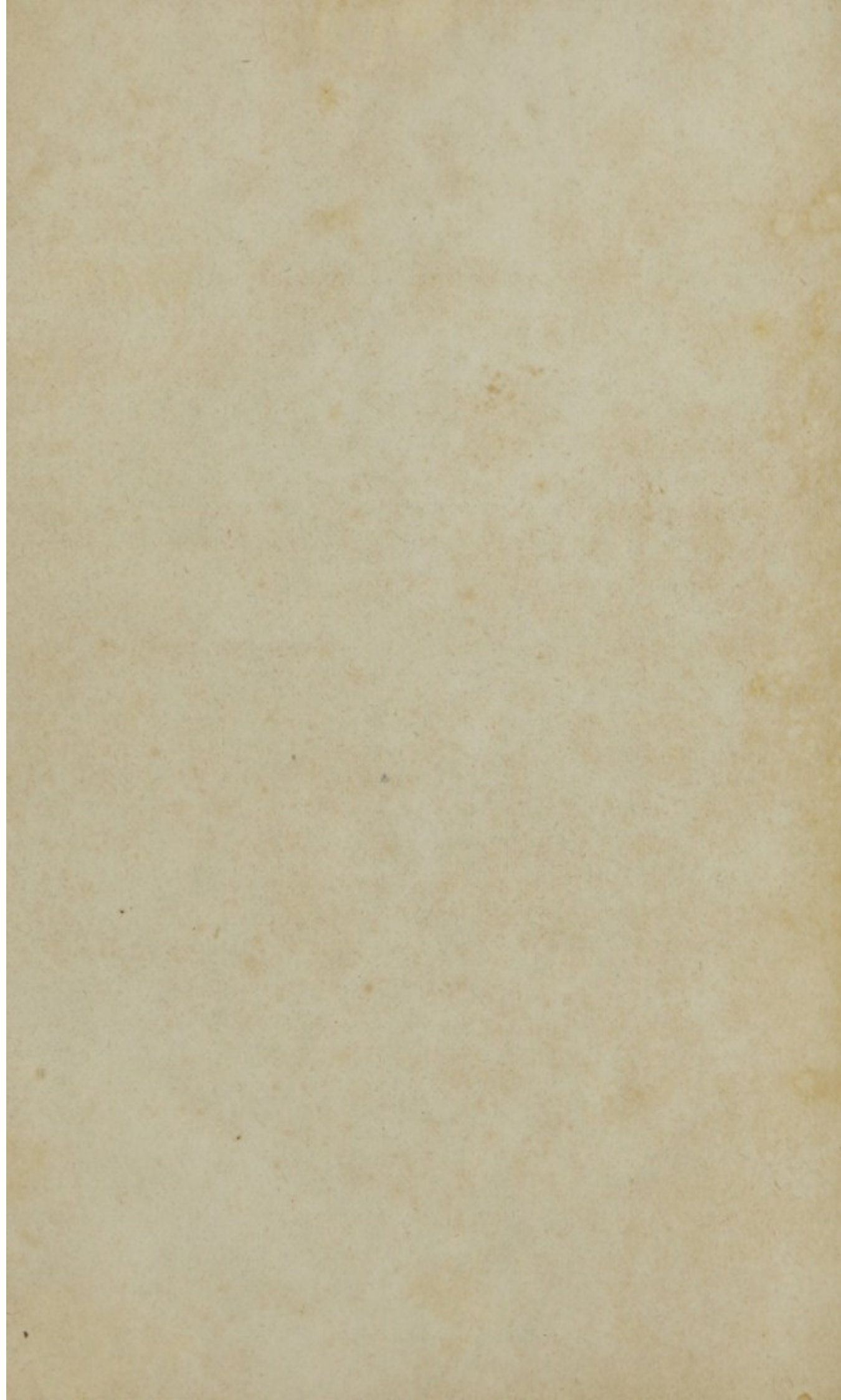
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THE
VEGETABLE MATERIA MEDICA
AND
PRACTICE OF MEDICINE,
BY DOCTOR ABEL TENNANT.
CONTAINING IN DETAIL HIS PRACTICAL KNOWLEDGE
OF
AMERICAN REMEDIES,
IN CURING DISEASES.

Stafford.
D. D. WAITE, PRINTER,
BATAVIA, N. Y.

.....

1837.

NORTHERN DISTRICT OF NEW-YORK, ss.



Be it Remembered, That on the sixteenth day of May, Anno Domini, 1837, ABEL TENANT, of the said District, hath deposited in this Office, the title of a Book, which is in the words following, to wit:—
“VEGETABLE MATERIA MEDICA, and practice of Medicine. By Doct. Abel Tenant, containing in detail, his practical knowledge of American Remedies, in curing diseases.” The right whereof he claims as Author and Proprietor.

In conformity with an Act of Congress, entitled “An Act to amend the several Acts respecting Copy Rights.”

ANSON LITTLE,
*Clerk of the District Court of the
Northern District of New-York.*

PREFACE.

Within a few years past many books have been issued from the American press, appertaining to the different branches of the practice of medicine; but as yet no work of the nature of the one proposed has appeared. But the author of the following work has long seen the want of a general treatise on symptoms and diseases, to which the children of Columbia's soil are subject, and he has looked forward with great anxiety, for some one more competent for the task than himself. Many books, indeed, have been written on Botany, but they have been chiefly intended for the learned, and those who practice medicine; they were not intended as the sick man's friend, but the physician's; they were calculated almost exclusively for the physician's library, and not the family library.

The Author proposes in this work to follow a different plan.—His work is intended for the learned and unlearned—for the physician, mechanic and farmer—it is for the good of *all*—it is to serve the cause of humanity—it is calculated to put into the hands of every man the means to heal diseases; and I can confidently assure the public, and the members of my profession, that in my hands, the treatment of diseases as recommended in the following work, has proved successful; and it would be but a poor compliment to my botanic brethren, and brother practitioners, to suppose that in their hands it would not be equally beneficial to the sick.

I would ask if the plants which God has placed in the fields of nature, are so useless and unpopular as to be forever condemned? I answer, No. My friends, that the God who created us, planted in the garden of Nature botanic remedies for disease, no one pretends to deny. Who has not in the course of his life seen aston-

ishing cures performed by the simple virtues of vegetables, even when administered by the humble Root Doctor? (or by the humble man of roots.) Dare any one assert or pretend that vegetable medicines are less safe than minerals? when every day's experience proves, that when the whole force of minerals have failed, the simple vegetable medicine effects the cure. Why, then, do we complain of sickness and pain, when the Almighty has put into our possession ample material for relieving the sufferings of the sick and afflicted of our fellow beings? And why are we permitted to render this service to our fellow beings, and to administer the medicine which God has created for the good of all, only with halts about our necks.

We find recorded in sacred writ, many diseases, namely, fevers, agues, inflammations, leprosy, palsy, dropsy, blindness, deafness, lameness, consumption, etc. with many others that mankind are subject to, and we ought to be thankful that God has not left us in a situation in which we are subject to so many diseases, without providing a remedy. He has furnished ample means to heal the sick. But superstition is so prevalent among our people, that many of them not only suffer on a long bed of sickness, but have to expend the last cent they possess, to satisfy their attending physician. Not that I would censure a physician for taking a *reasonable* fee for his services, but, that he should put himself to so much trouble and inconvenience as to send to foreign nations for medicines which are no better, and probably not as good, as many that we are daily trampling under our feet. It has been a common custom among one class of physicians to denounce all others as *quacks*, &c., indeed, I have frequently been called a quack, merely for curing when my accuser has failed. Such accusations, under such circumstances, are quite harmless and ridiculous. Walker's definition of a quack is a *boastful pretender to acts which he does not understand*. Such a person should be despised by the learned and unlearned wherever he may be found, and "by their fruits ye shall know them."

It is the practice of many individuals, to conceal from the world the healing art, and to make the superstitious believe that in their hands alone rests the power of healing diseases. But let wisdom speak, and she will say that medicine is like religion, free for every man. Therefore means for every man to gain knowledge is free, and must be given in plain and easy language, so that it be understood by the illiterate as well as the learned. Many wise men have written largely on the subject of diseases and the manner of treating them, but they are very lengthy and tedious, and many times in a language that is not understood but by few. In order to obviate that difficulty, I have taken the subject into serious consideration; and having had a long, and I may say, successful practice as a physician, I feel it my duty, and the highest privilege, to communicate to the reader a system of practice in which I have been very successful; and the high esteem I have for botany, and the humanity that reigns within my breast excites me to action. Although I am indebted to others for some part of what this treatise contains; yet, the principal part is from my own experience and successful practice for many years; and its principal advantages arise from its being short and comprehensive.

While in the enjoyment of health the reader may think a work of this kind is of little importance; but let him be confined to a bed of sickness, and he will esteem it as one of the greatest treasures that ever found a place in his desk. The plan of this work is arranged in the following manner:—

First, Anatomy of the human frame; second, the practice of the Author; third, the symptoms and cures of disease; fourth, the preservation of plants and favorite prescriptions; Fifth, valuable recipes; Sixth, description of plants, their medical qualities, and where they may be found; Seventh, diseases of females and their remedies; and lastly, the Author's valedictory or closing remarks.

I may, it is true, meet with some opposition in publishing a work of this kind, but I cannot do justice to my own conscience and to my fellow beings, by keeping back part of my knowledge of dis-

eases and medicines, or by publishing a work merely to benefit myself, by disclosing a few uncertainties. Although this work falls much short of perfection, yet my readers will find many truths and valuable recipes, and I wish all to give the book an impartial perusal, and the medicine a fair trial, before they condemn me or my practice. I would recommend all to search the botanic garden, (the garden of Nature,) and strive to have this motto in their minds, "prove all things and hold fast that which is good."

In submitting this work to the public the Author doubts not, that if he has so far succeeded in the object of his efforts, as to render any assistance to the sick and afflicted, his efforts will not remain unrewarded.

THE AUTHOR.

ANATOMY.

ANATOMY is a Science which explains the structure and use of every part of the human body. It is divided into nine parts, namely:

BONES,	NERVES,
LIGAMENTS,	GLANDS,
MUSCLES,	VISCERA,
MUCILAGE SACS,	FLUIDS,
VESSELS,	

DOCTRINE OF THE BONES.

Bones are hard substances composed of phosphate and carbonate of lime, cemented by gelatin, which support and form the stature of the body, defend the bowels, and give adhesion to the muscles. Their substance, in the long bones is compact, in the extremities of these bones spongy; in the interior of the marrow bones, net-like, or latticed. In shape they are various. Long and irregular-shaped bones are divided into a body and extremities, and flat bones into a body and margins. Bones are variously named; some from their situation, as the forehead, nose bone, &c. others from their shape, as the wedge bone, in the bottom of the skull; some from their use, as the jaw bone. The processes and cavities of the bones are named from their figure, as the tooth-like process, the saucer cavities, &c. An artificial skeleton is when the bones are hung together with a wire, or a natural, when they are kept together by their own ligaments.

TABLE OF THE BONES.

BONES OF THE HEAD.

BONES OF THE SKULL.	{	Forehead bone,	1
	{	Side bones,	2
		Occiput, or hinder bone,	1
		Temple bones,	2
		Sieve-like bone,	1
		Wedge-like bone,	1

BONES OF THE FACE.	{	Upper Jaw bones,	2
	{	Cheek bones,	2
		Nose bones,	2
		Tear bones,	2
		Palate bones,	2
		Lower Spongy Nose bones,	2
		Plough Share,	1
		Lower Jaw,	1

TEETH.	{	Front Teeth,	8
	{	Eye Teeth,	4
		Dog Teeth,	8
		Grinders,	8
		Of Wisdom,	4

Bones of the Tongue, 1

BONES OF THE IN- NER EAR, WITH- IN THE TEMPLE BONE.	{	Hammer,	2
	{	Anvil,	2
		Stirrups,	2
		Circular bones,	2

BONES OF THE TRUNK.

THE BACK-BONE.	JOINTS.	Neck,	7
		Back,	12
		Loin,	5
	Sacred bone, or rump,		1
	Point of the spine,		1
CHEST.	Breast bone,		1
	Ribs,		24
	Pelvis, or haunch bones.		2

BONES OF THE UPPER EXTREMITIES.

THE HAND	SHOULDER.	Collar bones,	2
		Shoulder blade,	2
		Arm bones,	2
	THE FORE- ARM.	Fore-arm,	2
		Outer-arm,	2
		Ship bones,	2
		Moon bones,	2
		Wedge-like bones,	2
	WRIST BONES.	Circular bones,	2
		Square bones,	2
		Four-sided bones,	2
		Great bones,	2
		Hook-like bones,	2
		Hand bones,	10
		Finger bones,	28

BONES OF THE LOWER EXTREMITIES.

THE LEG.	The thigh bones,		2
	Knee pans,		2
	Shin bones,		2
	Outer-shin bones,		2
THE FOOT	Heel bones,		2
	Ankle bones,		2
	Square bones,		2
	Ship-like bones,		2
	Wedge bones,		6

Bones of the foot,	10
Toe bones,	28
	<hr/>
Total,	240

The skeleton is divided into head, trunk, and extremities,

OF THE HEAD.

The head is divided into the skull and face.

THE SKULL.

The shape is various according to the customs of different nations the bones of the infant being so tender as to be moulded into almost any form. It consists of eight bones: one forming the fore-head, two forming the top and sides of the head, two forming the temples, one forming the back part of the head, one wedge-shaped in the middle of the base of the skull, and one sieve-shaped, behind the root of the nose.

Upon examining the upper part of a skull externally, several zigzag lines are perceptible; that which extends across from one temple over to the other is called the crowning suture, and unites the forehead bones to the two which form the top and sides of the head; that which proceeds from behind one ear over across to the other, is the back suture, connecting the hinder bone to the side bones of the head; and the suture extending from the crowning suture to the back suture, is called the arrow-shaped. These are sometimes called the true sutures, to distinguish them from the two

spurious sutures, which unite the temple bones to the sides of the head. There are several prominences on the upper part of the skull; two in the forehead bones, one over each eye, one in the middle of each bone forming the sides of the head, and one in the centre of the hinder bone. These eminences point out the centre of ossification in these bones.

On the internal surface of the upper part of the skull are a number of grooves formed by the spinous artery of the outer membrane of the brain. The sutures are here in the form of a line, not dove-tailed, and the whole surface is more polished than the external.

The bones forming the upper part of the skull consist of an external and an internal table, of a compact structure, and a spongy intervening substance.

The internal surface of the base of the skull is divided naturally into eight considerable depressions to suit the lobes of the brain and hinder brain. The two anterior are immediately over the orbits, and are separated from each other by a ridge ascending from the root of the nose. Immediately before this ridge is a small hole, called the blind hole, and on each side a number of perforations which transmit the smelling nerves into the nose, called the sieve-like holes. Passing backwards, there are two round holes near each other, one going to the bottom of each orbit: these are for the passage of the optic nerve, and are called the optic holes. Beyond these holes is a small cavity which will admit the end of the little finger, surrounded by four processes, two of which are anterior, and two posterior; these are termed couch-shaped processes, and the cavity in their centre contains the pituitary gland. Under each anterior couch-shaped process is a considerable fissure, the upper orbital hole, which transmits to the orbit the third, fourth, the first branch of the fifth, and the sixth pair of nerves, and the ophthalmic artery. Beyond this fissure, proceeding backwards, there is a round hole which gives passage for the second branch

of the fifth pair of nerves; and the oval hole through which the third branch of the fifth pair of nerves passes. Near the oval hole is the spinous hole through which the spinous artery of the outer membrane of the brain passes. Between the oval hole and the posterior couch-like process, there is a large ragged aperture or canal, which in the fresh subject is partly filled with cartilage, and is the entrance of the carotid or head artery, and the exit of the great nerve for the ribs. A projecting part of the bone next presents itself, called the rocky portion of the temple bone. It has on its posterior surface an oval opening, the internal hearing canal through which the nerve for the organ of hearing and the nerve of the face enter. Immediately below this is an irregular oval opening, formed by the junction of the bone, forming the back part of the head with the temple bone; this is the hole in the base of the skull. Through the anterior part passes the eighth pair of nerves; and the posterior part transmits the blood from the side canal of the outer membrane of the brain, whose course is marked by a deep groove leading to the hole, into the jugular vein.

The portion of the bone which proceeds backwards from the posterior couch-like process, between the rocky portion of the temple bone, is the wedge-shaped process of the hinder bone of the head; it is somewhat hollowed to receive the oblong part of the brain uniting with the spinal marrow. At the bottom of this process of bone is a considerable opening, called the great hole of the back of the head; it transmits the spinal marrow, the vertebral arteries, and the accessory nerves, and a process of the second vertebræ or bone of the neck, lies in its anterior part. Between this opening and the hole in the base of the skull, is the hole which gives passage to the tongue pair of nerves. Beyond the great hole in the back of the head is a cross-shaped eminence to which processes of the outer membrane of the brain are attached; the horizontal eminence separates the two superior cavities of the back of the head, from the two inferior.

FOREHEAD BONE.

The forehead bone is situated in the anterior part of the skull, forming the forehead and upper part of the orbits. Its shape is like a cockle shell. There are two forehead eminences which mark the centres of ossification; two forehead excressences which are situated over the two forehead canals; two eye-brow ridges, which give origin to the forehead muscles, and whose extremities are called the angular or orbital processes; an external forehead spine, on which the bones of the nose rest; and an internal forehead spine, to which the outer membrane of the brain adheres; and the two orbital plates which separate the orbits from the cavity of the skull.

The cavities are: the brain cavity, which contains the front lobes of the brain; a large notch between the orbital plates for the situation of the perforated plates of the sieve bone; two forehead or pituitary canals within the bone above the root of the nose; two orbital cavities, in which are two depressions for the situation of the tear gland; a notch in each eye-brow ridge for the cartilaginous pulley of the upper oblique muscle; an eye-brow hole through which passes the forehead artery and nerve; the blind hole, situated below the date beginning of the internal forehead spine.

The forehead bone is joined to those two forming the sides of the head by the crown suture; with the two bones of the nose, the two upper jaw bones, and the two tear bones, by what is called the transverse suture; with the wedge bone and sieve bone, by harmony of their parts; and with the cheek bone, by suture.

The use of the forehead bone is to form the forehead pituitary canals, part of the orbits, and to contain and defend the lobes of the brain.

SIDE BONES.

These bones, forming the sides of the skull, are placed one on each side of the upper part of the skull. They are arched and

somewhat four-sided. There is a semi-circular ridge from which the temple muscle originates; and a hole near the arrow suture, which transmits an artery and a vein of the outer membrane of the brain. Upon its internal surface are the grooves of the spinous artery; and where the two bones are united there is a deep cavity extending along the arrow suture, for the longitudinal canal of the outer membrane.

These bones are the most equal and smooth, and are among the thinnest bones of the skull. Their use is to form the superior part of the head.

THE HINDER BONE.

This bone forms the back part of the head, and is of a four-sided, oblong shape. There is an external excrescence in the middle of the bone, to which the cord of the nape of the neck is attached. Also a transverse spine proceeding from each side of the excrescence to which the four-sided muscle and muscles of the neck are attached; a lesser cross spine, for the insertion of the straight muscles, below the other; a prominent ridge running downwards, from the excrescences in the centre of this bone, and forming, with the above-mentioned ridges, a cross-shaped spine; the wedge-shaped process situated before the great hole; two processes shaped like an ancient cup, which are united to the first vertebræ of the neck. There is also an internal cross-shaped spine; the superior branch gives adhesion to the longitudinal canal of the outer membrane of the brain; the two side branches to the side canals; and the lower, to the adhesion of the hinder brain.

The cavities are, the great cavity on the back of the head, through which the spinal marrow proceeds into the spine, and the spinal arteries, and nerves upwards into the brain; two front holes for the passage of the tongue pair of nerves; two back entrances, (which are sometimes wanting,) for the occipital vein to pass into the side canal; two notches, which, with the corresponding notch-

es in the temple bone, form the holes in the base of the skull, for the passage of the blood from the side canals into the jugular vein, and the exit of the eighth pair of nerves; a large groove leading to the above notches, in which the side canals are placed. The internal surface has also four considerable depressions, formed by the cross-shaped spine; the two upper contain the posterior lobes of the brain, and the two lower, the two lobes of the hinder brain.

This bone is joined to the wedge-shaped bone by the wedge process, in the adult by a bony concretion growing between them; but in youth they are united by an intervening cartilage; with the side and temple-bones by the back suture; and with the first and second vertebræ of the neck by a cartilage.

The hinder bone constitutes the posterior and lower part of the skull; contains the posterior lobes of the brain, the back brain and the oblong marrow; and joins the head to the back bone.

WEDGE-SHAPED BONE.

This bone derives its name from being fixed in the middle of the base of the skull like a wedge, and extends underneath from one temple to the other. Its shape is irregular, being compared to a bat with the wings expanded.

Its external processes are, two large wings, the front part of which forms part of the orbit, the inner surface supports a portion of the middle lobe of the brain, and the whole external surface is covered by the muscle of the temple. Two spinous processes, a marrow point projecting behind the spinous hole. The wedge-shaped spine, upon which the plough-share, or bone separating the nostrils, lies. Two pen-shaped processes, each of which is distinguished into a root and two extended plates or wings; one external, which on its outer surface gives rise to the external pen-shaped muscle, and on its internal surface to the internal pen-shaped muscle; the other internal. Two hook-like processes, one on the end of the internal wing of each pen-like process, over

which the tendon of the muscle, called the stretcher of the palate, turns. The internal processes are, two smaller wings which form the upper part of the superior orbital fissures; four couch-shaped processes, two front and two back.

The external cavities are, the wedge-shaped pituitary canal, which is the middle of the bone, has a communication with the nostrils, and is divided by an intermediate partition. Two pen-shaped depressions, one between each greater and lesser wing, for the reception of a part of the palate bone. Two holes, each leading to a canal in the root of the pen-shaped process, through which the recurrent branch of the fifth pair of nerves passes into the skull. The internal cavities are, the cavity containing the pituitary or nose gland; the two optic holes; two grooves, one on each side of the pituitary gland, formed by the pulsation of the head arteries; two upper orbital holes, between each greater and lesser wing, through which the third, fourth, first branch of the fifth, and the sixth pair of nerves, and the eye artery, pass out of the skull; two round holes for the passage of the second branch of the fifth pair of nerves; two oval holes for the third branch of the fifth pair of nerves.

The wedge-shaped bone is connected with all the bones of the skull by harmony; it is also united to the two cheek bones, the two upper jaw bones, and the palate-bones, by agreement; and to the plough-share, by being, as it were, nailed to it. It forms the base of the skull, helps to form the orbits, the pituitary canal of the nose, the temples, &c., and it contains the middle lobes of the brain.

TEMPLE BONES.

These are placed at the sides and lower part of the skull; in shape, they are irregular, and they are divided into a spurious portion, which forms the spinous suture, and a stony portion, which is very irregular, and is situated at the base of the skull.

Its processes are, the yoking process, which with a process of the cheek bone, forms the yoke or arch of the temples, under which the temple-muscle moves, and which gives rise to several muscles of the face, as the chewing and joining muscle; the breast-like process, which projects from under each ear, in the front part of which the muscle to move the head forwards is inserted, and into its back part, the muscles which move the head obliquely backwards; the pencil-shaped process, which is long and narrow, gives origin to a ligament of the bone of the tongue, also to muscles of the tongue and throat; the sheath-like process, which surrounds the root of the pencil-process; and the hearing process, or outer bony circle of the hearing passage, to which the membranes of the brain and the cartilage of the ear are affixed.

The cavities are, the external hearing canal, which leads to the cavity of the ear; the internal hearing canal, which begins on the back part of the internal surface of the stony portions, and transmits the seventh pair of nerves: it has immediately within it the internal opening of the aqueduct of Fallopius.

Each tempel bone is joined to the side bones by the spurious suture; with the wedge-shaped, and the cheek bones by harmony; and with the lower jaw by its excrescences fitting in the depressions of the jaw. The use of these bones is to contain the middle lobes of the brain, and the organ of hearing; and to concur in forming the temples and base of the skull.

SIEVE-SHAPED BONE.

Is situated in the fore part of the base of the skull, above the root of the nose, and between the orbits. Its shape is that of a cube, or square.

Its processes are, a sieve-like plate which lies horizontally above the root of the nose, within the cavity of the skull. It is every where perforated by a number of small holes, through which the smelling nerves pass into the nose. The cock's crest, a process

which proceeds upwards from the middle of the sieve-bone, and has attached to it the scythe process of the outer membrane of the brain. Two flat circular bones, which are very smooth externally, and form the inner sides of the orbits. The sieve partition, nose plate, and perpendicular plates, are also considerable processes, descending directly under the cock's crest into the cavity of the nose, and forming, with the plough-share, the nose partition. Two hollow substances, which are curled like a piece of parchment, one on each side of the partition, called the upper spongy bones. There are a number of smaller holes on each side of the cock's crest, two circular holes of the nose, one situated between the forehead bone and the circular plate of the sieve bone, for the passage of the nasal branch of the orbital nerve; a number of cells which compose the internal parts of the bone, and form the pituitary canals of the sieve bone.

This bone is connected with the forehead bone, and the nose bones, the two upper jaw bones, the two palate, the wedge-shaped, and the plough-share bones, by harmony. Its use is to form an extensive surface for the organ of smell, to constitute part of the nose, orbits, and skull.

OF THE FACE.

The bones of the face are fourteen in number and are divided into those of the upper and lower jaw.

The upper jaw is formed of thirteen bones, viz. two upper jaw, two nose, two palate, two cheek, two lower spongy, and two tear bones, and the plough-share, or separating bone of the nose, which are all united to the skull and to one another, by harmony. The lower jaw is one bone.

There is an obvious line beginning at the external angle of the orbit, where the forehead bone is joined to the cheek bone, which leads to the inferior opening of the orbit, proceeds upwards to the

nose, whose root it crosses, and then traverses the other orbit to the external angle; this is the transverse suture. The other harmonies of the face are called after the bones they unite.

UPPER JAW BONES.

These bones are situated in the front and middle part of the face. Their shape is irregular.

The processes are, the nose process, which forms the sides of the nose; the orbital process, or plate, which forms part of the orbit; the process in which the teeth are placed; the palate process, which forms the palate; and a spine, formed by the junction of the palate bones, on which the plough-share rests.

Its cavities are, the jaw cave, and the jaw pituitary canal, in the body of the bone, between the orbital and palate processes; it opens into the nostrils. The lower orbital canal, which opens under the margin of the orbit, and transmits the orbital nerve. The tear depressions, situated in the upper internal part of the nose process, for the reception of the tear-bag; it leads to the nasal canal which conveys the tears into the nostrils. The back palate-hole, near the back tooth, on the inside, for the passage of the tooth nerve. A notch in the front part of the palate process, which, with a corresponding notch in the other upper jaw bone, forms the old palate-hole, which transmits the front palate nerve and artery.

Each upper jaw bone is connected with its fellow, with the forehead bone, one nose bone, one tear-bone, the sieve, the wedge, one cheek bone, one palate bone, and one lower spongy bone, by harmony, and with the plough-share, and the teeth by their being nailed as it were, to it. The use of these bones is to form part of the face, palate, nose, nostrils, and orbits, and also to afford a convenient situation for the organ of chewing.

THE CHEEK BONES.

These bones are situated at the sides of the face. In shape they are almost square. The processes are, the upper orbitary pro-

cess which forms part of the orbit and the sharp edge of the temple bone; the lower orbitary process opposite the former, and in part constituting the bottom of the orbit and the edge of the cheek; the internal orbitary process, which also forms part of the orbit; the jaw process by which it is joined to the upper jaw; the yoke process, by which it is joined to the temporal bone, to form the arch.

This bone is united to the forehead, upper-jaw, sieve and temple bones. Its use is to assist in forming the face and orbits.

NOSE BONES.

These are situated in the upper and middle part of the nose. In shape, they are a long square; in substance, compact. Their use is to form the external part of the nose. Each bone is connected with its fellow, and the upper jaw, by agreement, with the forehead and sieve bone, by the transverse suture.

TEAR BONES.

These bones are situated in the internal angle of the orbit of the eye. They are like the nail of the finger in shape. There is a cavity which contains the tear-bag. Each bone is connected with the upper jaw, forehead, sieve, and lower spongy bones, by agreement.

LOWER SPONGY BONES.

Are situated in the side and lower part of the nostrils. Figure, spiral and convoluted. Each bone is united to the upper jaw, palate, tear, and sieve bones.

PALATE BONES.

These bones are placed in the back part of the nose, from which they ascend sidewise to the orbits. In shape, they are irregular.

They are divided into palate, pen-shaped, nose, and orbital portions. The palate plate, which forms the back part of the roof of the mouth; the pen-shaped process is situated behind the last grinder; the nose process arises perpendicularly from the palate, and covers part of the jaw cave; the orbital process, situated in the orbit. The cavities are the palate cells which communicate with, and form part of the wedge cells. Its use is to form the back part of the palate, and part of the nose and orbit. Each bone is connected with its fellow, with the upper jaw, wedge, sieve, lower spongy, and plough-share bones, by harmony.

THE PLOUGH-SHARE.

Is situated in the middle cavity of the nostrils, which it divides into two parts. In shape it resembles a plough-share. Its use, to sustain and divide the cavity of the nostrils. Above, it is united with the wedge-bone, by being nailed, as it were, to it, and with the sieve bone, by harmony; below, it is connected to the upper jaw and palate bones, by agreement, and it is united to the cartilaginous division of the nose.

THE LOWER JAW BONE.

Is situated in the lower and front part of the face. Its figure is like a horse shoe. There are two jointed processes which are received into the jointed cavities of the temple bones; two crow's bill processes, which are sharp pointed, and give adhesion to the temple muscles. The process in which the teeth are fixed; the union of the under jaw bones in the centre of the chin; the lower edge, whose ends form the angles of the jaw.

The cavities are, the half moon notch between each crow's bill and jointed process; the hinder jaw holes, one above each angle, on the inner surface of the jaw, which transmit the lower jaw nerve and artery into a canal called the mental canal, which conducts

the same artery and nerve to the front jaw holes upon the external surface of the bones, one on each side of the chin, from whence the artery and nerve again emerge upon the chin.

Its use is to form a socket for the teeth; to constitute the lower segment of the cavity of the mouth, and to afford a point of adhesion to the muscles of the throat, neck and tongue. It is connected with the temple bones, by a hinge joint, with the teeth by enclosure, and with the bone of the tongue and other parts, by muscles.

PARTICULAR CAVITIES OF THE FACE.

The Orbits.—Situated under the forehead, at the root of the nose. Their shape is half of a hollow ball. The cavities are a depression for the tear gland; a notch of the orbital cartilaginous pulley; a depression for the tear-bag; the nasal canal for the passage of the tears into the nose; an upper and lower orbital fissure; the eyebrow hole; the lower orbital canal; the nasal hole, and the hole for the sight nerve. It is composed of seven bones: the forehead, jaw, cheek, tear, sieve, palate, and wedge bones. It contains and defends the eye and its adjacent parts.

Cavities of the Nostrils.—These cavities are under the front part of the skull, in the middle of the face; they are of a pyramidal figure. The prominences are, the nose partition, the cavernous substance of the sieve bone, and the lower spongy bones. There are three pair of pituitary canals, viz. the forehead, wedge and jaw; the caverns of the sieve bone labyrinth; the front holes of the nostrils; the nasal canal; the wedge palate holes, and the front palate hole. Use, to form the organ of smelling, and the pituitary canals, and to serve for speech and breathing.

Cavity of the Mouth.—Its shape, situation and use, are well known.

The Teeth—Are situated in the sockets of the jaws. They are commonly thirty-two in number, sixteen in each jaw. They are divided into four kinds: the cutting, or front teeth, four in each

jaw; one eye tooth on each side of the front teeth; and next to them two dog teeth on each side; and last, the grinders or double teeth. Each tooth is divided into a crown, neck and root. The substance of the root and internal part of the crown is compact; the external surface is white and hard, and is called the enamel. Their use is for mastication and the pronunciation of the dental syllables.

Cavity of the top of the Throat.—This is situated under the base of the skull, within the upper bodies of the joints of the neck and back part of the nostrils. Its shape is square at the top. It is composed of ten bones, viz. the hinder bone of the head, two palate, the plough-share, the three first joints of the neck, the tongue bone, and the two temple bones. Its use is for the situation of the top of the throat, upper end of the windpipe, and gullet, and bone of the tongue.

Bone of the Tongue—Situated in the back part of the throat, between the base of the tongue and the top of the windpipe. In shape, it resembles a half moon. There are two larger horns and two lesser horns. It serves for the adhesion of the tongue, for swallowing, and for a point of adhesion to many muscles. It is connected with the pencil process of the temple bones, the lower jaw, shoulder-blade, and breast bone, by various muscles.

Cavity of Hearing—Situated internally in the rocky portion of each temple bone. It is divided into the external hearing canal, cavity of the drum, labyrinth, and internal hearing canal. In the cavity of the drum, are: the orifice of the Eustachian tube, the breast-shaped canal, the oval window, the round window, and the little hearing bones. The labyrinth consists of the shell, court, and semi-circular canals. The shell has a base, top, nucleus, court, ladder, and a spiral plate. The court has an oval hole and the orifices of the semi-circular canals. The cavity of hearing is the organ in which hearing is performed.

The Little Hearing Bones—Are placed in the cavity of the drum.

In number, they are four; the hammer, the anvil, the stirrup, and the round bone. In substance, they are compact. Use, for hearing.

OF THE TRUNK.

The trunk of the skeleton is divided into the spine, chest, loins, and pelvis, or basin.

SPINE.

A long column, or pillar, which extends from the head to the sacred bone. It is composed of twenty-four bones called vertebræ, or joints, viz. seven of the neck, twelve of the back, and five of the loins. Each joint is divided into a body and seven processes, viz. the spinous, two upper slanting, two lower slanting, and four cross processes. Cavities: the spinal canal, and the side holes of the joints. The first bone of the spine is connected with the hinder bone of the skull by a hinge joint; the second joint is united to the first with a motion like a wheel on its axis. The bodies of the vertebræ are connected with one another by a peculiar intervening cartilaginous substance; and on their back parts by a yellow elastic ligament, and by their oblique processes. It supports the head and trunk, and contains and defends the spinal marrow.

Neck Joints.—The first joint is called the atlas. It has no body or spinous processes, but forms an arch, which on the front part surrounds the tooth-like process of the second joint. Instead of upper slanting processes, there are two canals. The second joint is called the toothed. There is a tooth-shaped process at the upper part of its body. All the transverse processes of the remaining neck joints have a peculiar hole for the passage of the vertebral arteries.

Back Joints.—The peculiarities of the vertebræ of the back are,

a depression at the sides of the bodies, and a superficial one in the points of the transverse processes, for the attachment of the great and small heads of the ribs.

The Loin Joints—Are much larger than those of the back, and the transverse processes have no depressions.

OF THE CHEST.

The chest is composed of twelve back joints, twenty-four ribs, and the breast bone.

RIBS.

The ribs are placed obliquely from the back joints to the breast bone; twelve on each side. They are divided into seven true, which are uppermost, and five spurious. Eminences: the great head which is connected to the bodies of the vertebræ; the neck; the lesser head, which is joined to the cross processes of the vertebræ; and the angle of the rib. The cavities are, a longitudinal groove on the inside for the artery of the ribs. The front part of the ribs is cartilaginous, the rest bony and compact. They are connected in front with the breast bone, and behind with the bodies and transverse processes of the spine. Its use is to form the chest, to serve for breathing, to defend the vital intestines, and to give adhesion to the muscles.

BREAST BONE.

This bone is situated in the front part of the chest, between the true ribs. Its cavities are the jugular canal, at the upper and inner part; two collar bone canals, for the adhesion of the collar bones; and seven rib depressions to which the ribs adhere. Its

substance is somewhat spongy. Its use is to form the chest, and give adhesion to the separating membrane of the chest.

OF THE LOINS.

The bones of the loins are the five loin vertebræ.

OF THE PELVIS, OR BASIN.

This is situated in the lower region of the trunk. Its figure is somewhat like a basin. It is composed of four bones, viz. two haunch bones, one sacrum or sacred bone, and the point bone at the lower end of the sacrum. Its use is to contain the organs of generation, the bladder, straight intestine, and support the spine.

HAUNCH BONES.

These bones are situated at the sides of the basin. Their shape is irregular. Each bone is divided into three portions, viz. the haunch bone, the hip bone, and the share bone, or pubis. The eminences are, the crest of the uppermost part from which the transverse and slanting muscles of the abdomen arise; at its back part are two spinous processes, which gives adhesion to ligaments; at its fore part are also two spinous processes; the upper gives adhesion to the muscle, enabling persons to cross their legs, the stretcher of the sheath of the thigh, and the ligament of the thigh; the lower front spinous process, about an inch from the former, has, arising from it, the straightener of the thigh. The outer surface of the haunch bone is covered with the buttock muscles; the internal by the internal muscles. Upon the internal surface there is a line even with the pubis; this is the rim of the basin; it divides the cavity of the abdomen from the pelvis. Upon the lower portion of

this bone are, the bump upon which we sit; the spinous process of the hip, which projects backwards, and gives adhesion to the uppermost ligament, connecting the haunch bone to the sacrum; and the branch of the hip, which joins the share bone. Upon the share bone are, the body, near the socket, the angles and arches of the pubis. The cavities are, a notch between the front spines of the haunch; a front and back notch in the hip; the socket which receives the head of the thigh bone; and the oval hole. Each haunch bone is connected with its fellow in front by ossification; with the sacred bone by strong ligament and cartilages; and with the head of the thigh bone by ball and socket.

THE SACRED BONE.

This bone is placed in the back part of the basin. Its shape is triangular, bent forward. The eminences are, two upper oblique processes; appearances of the spinous processes; appearances of the oblique and cross processes; and the appearances of the joints of the back bone. The cavities are, four pair of outer, and four pair of internal holes, and five canals lengthwise. Its use is to constitute the basin, and sustain the spine.

THE POINT BONE.

This small bone forms the tip, or lower end of the sacred bone. Its use is to sustain the rectum, or straight gut, and prevent rupture of the soft parts in delivery.

OF THE UPPER EXTREMITIES.

The bones of the upper extremities, are, on each side, the collar bone, the shoulder-blade, the upper-arm, the two fore-arm bones, bones of the wrist, hand, and fingers.

COLLAR BONE.

This bone is placed slanting on the upper and side parts of the chest. Its shape is similar to the letter *f*. There is a groove on its under side, for the reception of the under collar bone arteries. Its use is to connect the shoulder-blade and upper-arm bone to the chest, and to defend the collar bone vessels. In front it is jointed to the breast bone, and behind to the shoulder-blade, by its head fitting in a cavity.

SHOULDER-BLADE.

This is placed in the upper and side parts of the back; its shape triangular. Its eminences are, the spine, which is in the middle of the outer surface; its front termination is called its extremity; the crow's bill process, which stands out opposite to the extremity; the borders of the bone are called ribs, and the corners, angles; the circle below the joint cavity is called the neck. Its cavity is, the joint cavity which receives the head of the arm bone. The shoulder-blade is connected with the ribs, and bone of the tongue, by muscles, and with the arm bone, by ball and socket. It defends the back, sustains the arm, and forms the joint of the arm bone.

UPPER ARM-BONE,

Is situated between the shoulder-blade and fore-arm. Eminences: the head which is rounded on its upper part; the neck which is immediately below the head; the great eminence near the neck, which receives the upper spine muscles; and the lesser eminence, which has affixed to it the under muscle of the shoulder-blade. On the lower end are three eminences, namely, an outer and an inner, which give origin to the bending and extending muscles of the arm, and the pulley of the arm bone. There is a furrow between the eminences, for a long tendon: in the back part of the

lower end, a depression for the process of the outer arm bone; and a front depression for the crow process. It constitutes the arm.

THE FORE-ARM BONE.

This bone is situated in the inside of the fore-arm towards the little finger. Its figure is long, and thicker above than below.—There is the elbow process on which we lean; and the crow process opposite to it. In the lower extremities are the lower head and neck, and the pencil process, which gives strong adhesion to the ligament which secures the wrist. Its use, to constitute the chief support of the fore-arm. It is connected with the pulley of the upper-arm, by its round head fitting into the corresponding cavity; and with the outer-arm bone by its rotating round it.

OUTER-ARM BONE.

Situated in the external side of the fore-arm, towards the thumb. In shape, it is long. The eminences are, the upper head which is excavated; the little head and the pencil shaped process of the lower end. Its cavity, the joint cavity. It assists in forming the fore-arm, and serves for bending, and turning the arm. It is connected to the upper-arm by a hinge joint; to the fore-arm bone by an intervening ligament; and with the wrist by ball and socket.

WRIST.

The wrist is composed of eight bones, which lie close to each other in a double row, between the fore-arm and the hand. It is divided into two rows, the upper and lower. In the upper row (from the thumb to the little finger,) are the ship bone, the moon bone, wedge, and round bone. In the lower row, the two square bones, the great bone, and the hook bone.

BONES OF THE HAND.

Situated between the wrist and fingers. Composed of five longitudinal bones: one of the thumb, and four of the fingers. These bones form the hand.

FINGERS.

Are situated at the lower extremity of the hand. They are composed of a thumb and four fingers. The thumb has two bones, and each finger three. They form the fingers, which are the instruments of touch, defence, and labor.

OF THE LOWER EXTREMITIES.

The bones of the lower extremities are, the thigh, knee-pan, shin bone, outer-shin bone, the bones of the foot, heel and toes.

THE THIGH.

Is situated between the basin, and the knee. The eminences are, the head, which is received into the socket of the hip, and has a small dimple in the middle for the attachment of the round cord; the neck on which the head stands is rough, and gives attachment to the cap ligament; the great projection below the neck, for the insertion of the buttock muscles; and the little projection, which receives the loin muscle, and internal muscles; and a rough line on the body of the bone.

On the lower extremity are, the external and internal rounded eminences, and between them, behind, a deep notch for the passage of the great artery, vein, and nerve of the leg. Its use is obvious. Its substance is compact on the outside, spongy in the extremities, and latticed internally.

SHIN BONE.

Situated in the inner side of the leg, between the knee and the foot, and is long, thick and triangular. The eminences are, its upper head; the spine of the shin bone, to which the great ligament of the knee-pan is fixed; and the lower head, which forms the inner ancle. The cavities are, two joint canals, in the upper head, for the reception of the double head of the thigh bone; and the joint cavity at the side of the head, for the reception of the outer-shin bone. Its use is to support the leg, and serve for the bending of the lower extremity. This bone is connected to the thigh bone and knee-pan by hinge, to the outer-shin bone by intervening muscles, and to the ancle bone by ball and socket.

THE OUTER-SHIN BONE,

Is situated in the outer part of the leg, by the side of the shin bone. It is small, long and irregular in shape. The eminences are, the head of the upper end, and the outer ancle at the lower end. It is connected by a long ligament to the shin, and by its heads and cavities fitting. It forms a fulcrum for the shin bone, and helps to form the leg.

KNEE-PAN.

This flat bone covers the fore part of the knee joint, and is placed between the eminences of the thigh, and above the shin bone. Its shape resembles the common figure of a heart, with the point downwards. It is connected to the thigh bone by hinge, and to the shin bone by strong ligaments. Its use is to strengthen the knee joint, and to serve as a common pulley for the extending muscles of the leg.

BONES OF THE INSTEP.

These bones are placed between the leg and long bones of the foot, are seven in number, and in a double row, forming the ancle.

In the first row are the ancle bone and the heel bone; and in the second row are the ship bone, the square bone, and three wedge bones, which are placed close to one another. The eminences are the head of the ancle bone and the protuberance of the heel.— Their use is to form the base of the foot, and serve for its motion.

BONES OF THE FOOT.

These are the long bones between the instep and toes, forming the back of the sole of the foot. They are five in number.

TOES.

The great toe is composed of two small bones; each toe of three small bones.

THE BONE MEMBRANE. (*Periosleum*.)

This is a membrane which invests the external and internal surface of all the bones, the crowns of the teeth excepted. Its substance is fibrous, furnished with arteries, veins, nerves, and absorbent lessels. Its use is to distribute the vessels on the outer and inner surface of bones.

CARTILAGES.

Cartilages are white, elastic, glistening substances, growing to the bones. They are divided into those which cover jointed surfaces of bones; those between the joints, which are not fastened to the bones, but adhere to the cap ligaments, and lie between the joints, as in the knee joint, &c.; and those which unite bones firmly

together, as the bodies of the vertebræ, &c. Their use is to lubricate the articulation of the cartilages; to connect some bones by an immovable connexion; and to facilitate the motion of some joints.

FORMATION AND GROWTH OF BONES.

Ossification, or the formation of the bone, is a specific action of small arteries, by which the bony matter is separated from the blood, and deposited where it is required.

The first thing observable in the embryo (the child in the womb before the fifth month, afterwards is called *fœtus*,) when bone is to be formed, is a transparent jelly, which becomes gradually firmer, and is formed into cartilage. This gradually increases to a certain size, and when ossification (bone making) commences, vanishes as it advances. Cartilages, before ossific action, are solid, without any cavity, but when the ossific action of the arteries is about to commence, the absorbents become very active, and form a small cavity in which the bony matter is deposited; bone continues to be separated, and the absorbents model the mass into its required shape.

The process of ossification is extremely rapid in the womb; it advances slowly after birth, and is not completed in the human body till about the twentieth year.

Ossification of the flat bones, as those of the skull, always begin from the central points, and the radiated fibres meet the rays of other ossifying points, or the edges of the adjoining bones.

In long bones, as those of the arm and leg, a central ring is formed in the body of the bone, the head and extremities being cartilage, in the centre of which the formation of bone afterwards begins. The central ring of the body shoots its long fibres towards the head and extremities, which extend towards the body of the

bone. The head and extremities at length come so close to the body as to be merely separated by a cartilage, which becomes gradually thinner until the twentieth year.

Thick and round bones, as those of the ancle, wrists, breast and knee-pan, are at first all cartilage; ossification begins in the centre of each.

At birth, the bones of the child are very imperfect. The extremities and processes of almost all the long bones are connected with the body of the bone by cartilage. The skull has no sutures; its bones are connected together by a firm and almost cartilaginous membrane. On the fore part of the skull, between the side bones and the forehead bone, is a considerable membranous space; and a similar but smaller one between the side bones and the hinder bone of the head. The forehead consists of two bones, and the hinder bone of four. The teeth are partly formed, especially the enamel, and are placed in a double row. The outer ear-hole is surrounded by a bony circle, in which there is a groove for the attachment of the membrane of the drum; this circle gradually elongates into the hearing canal. The joint cavities in all the ones are much shallower than in the adult.

The haunch consists of three bones, which are connected together by very firm cartilage, as also the bodies of the spine and its processes.

CONNEXION OF BONES.

Bones are connected with each other, so as to admit of motion; or, so as to admit of no motion; or, with an intervening substance between them. There are several species of each of these.

The different species of the moveable connexion, are; the ball and socket, where the round head of one bone is received into the deep cavity of another, so as to admit of motion in every direc-

tion, as the thigh bone with the hip. The second species is when the round head of one bone is received into a superficial cavity of another, so as to admit of motion in every direction, as the head of the arm. The third is the hinge joint, which admits only of opening and shutting, or extension and flexion, as the knee-joint. The fourth, is where one bone rotates upon another, as the second neck joint, and the outer-arm upon the fore-arm. The fifth and last is, where there is motion, but that very obscure, as the long bones of the hand and foot.

The species of the immoveable connexion are three; first, when the union is by means of tooth-like, or dove-tailed processes, as in the bones of the skull; or, second, by agreement, where the connexion is by rough margins, not tooth-like; as the bones of the face. Third, when one bone is fixed to another like a nail in a board, as the teeth in the jaws.

The species of the intermediate connexion are five: first, where one bone is united to another by a cartilage, as the joints of the back bone. Second, when a bone is connected to another by a muscle; as the breast bone with the tongue bone. Third, when a bone is united to another by a membrane, as the bones of the head of the child in the womb. Fourth, where a bone is connected to another by a ligament, as the two arm bones. And fifth, where two bones are united one to another by bony matter.

OF THE LIGAMENTS.

Ligaments are strong elastic membranes, connecting the extremities of the moveable bones. They are divided into cap ligaments, which surround joints like a bag; and connecting ligaments. Use: The cap ligaments connect the extremities of the moveable bones, and prevent the escape of the lubricating mucus, or joint water. The external and internal connecting ligaments strengthen the extremities of the moveable bones.

Ligaments of the Lower Jaw.—The eminences of the lower jaw are connected with the joint cavities of the temple bone, by the cap and side ligaments.

Ligaments of the Back of the Head and Neck.—The joint eminences of the hinder bone are united with the corresponding joint depressions of the first vertebræ, by the cap, broad, front, and back ligaments, the ligaments of the tooth-like process of the second vertebræ, and the ligament of the nape of the neck.

Ligament of the Vertebræ, or Joint of the Spine.—These joints are connected together by means of the bodies and slanting processes; the bodies by a soft cartilaginous substance, and the processes by ligaments, viz., the cross ligament of the first joint, the front and back common ligament; the ligaments between the spine, between the cross, and between the joint; the cap ligaments of the oblique, or slanting processes; and the ligaments of the last vertebræ of the loins with the sacred bone.

Ligaments of the Ribs.—The hinder extremity of the ribs is united to the joints of the back bone; the front with the breast bone. The ligaments of the back extremity are, the cap ligaments of the greater and lesser heads; the outer and inner ligaments of the neck of the ribs; and a ligament peculiar to the last rib. The ligaments of the front extremity, are, the cap ligament of the cartilages of the true ribs, and the ligaments of the ribs among themselves.

Ligaments of the Breast Bone.—The ligaments connecting the three portions of the breast bone to the ribs, are, the proper membranes of the bone, and the ligaments of the sword-like cartilage.

Ligaments of the Basin.—The ligaments which connect the bones of the pelvis, or basin with the sacred bone, are, three upper sacred ligaments, two lower sacred ligaments, two cross ligaments of the pelvis, the guarding ligament of the oval-hole, and Paupart's ligament.

Ligaments of the Point Bone.—The base of the point is connected to the apex of the sacred bone, by cap, and other ligaments.

Ligaments of the Collar Bone.—The front extremity is connected with the breast bone and first rib; and the end at the shoulder is connected with the extremity of the shoulder-blade, by the intervening ligament, the cap ligament, and the raising ligament of the shoulder-blade.

Ligaments of the Shoulder-blade.—The proper ligaments which connect the shoulder-blade to the back extremity of the collar bone, are the conical and square ligaments.

Ligaments of the Arm-bone.—The head of the arm bone is connected with the joint cavity of the shoulder-blade by the cap ligament.

Ligaments of the Elbow Joint.—The elbow joint is formed by the lower extremity of the arm-bone, and the upper end of the fore-arm and outer-arm. The ligaments connecting these bones, are, the cap, and the connecting ligaments between the arm and fore-arm, and the arm and outer-arm.

Ligaments of the Outer-Arm.—The outer-arm is fixed to the arm-bone, the fore-arm, and wrist, by the upper, lower, oblique, and bony ligaments.

Ligaments of the Wrist.—The ligaments which connect the bones of the wrist together, and with the fore-arm and hand, are the cap ligament of the wrist; the first and second cross ligaments; the slanting ligament, and the cap ligament, proper to the bones of the wrist.

Ligaments of the Hand.—The bones of the hand are in part connected with the second row of bones in the wrist, and in part together by the joint and bony connecting ligament.

Ligaments of the Fingers.—The finger bones are connected together and with the hand, and the thumb with the wrist, by the side ligaments of the fingers, and the ligament of the thumb with the square bone of the wrist.

Ligaments which keep the Tendons of the Muscles of the Hand in their place.—These are situated partly in the palm, and partly on the back of the hand. In the back of the hand are, the external

cross ligament of the wrist, the sheath, and the transverse ligaments of the extending tendons. In the palm of the hand, are, the internal cross ligament of the wrist; the sheath-like ligaments of the bending tendons of the finger bones, and their helping ligaments.

Ligaments of the Hip Joint.—The head of the thigh bone is strongly affixed to the socket of the hip bone by two very strong ligaments, the cap ligament, and the restraining ligament in the head and socket.

Ligaments of the Knee Joint.—This joint is formed by the eminences of the thigh bone, the head of the shin bone, and the kneepan. The ligaments are, the cap, the outer and inner side ligaments; the cross and wing-shaped ligaments of the half moon cartilage, and of the kneepan.

Ligaments of the Outer-Shin Bone.—This bone is connected with the shin bone by means of the cap ligament of the upper end, the bony ligament between, and the ligament of the lower extremity.

Ligaments of the bones of the Instep.—The lower extremities of the bones of the leg form a cavity in which the ancle bone is received. This joint is made by the front, middle, and back ligament of the outer-shin bone, the three-cornered ligament, the cap, and the ligaments proper to the bones of the instep.

Ligaments of the Long Bones of the Foot.—These bones are connected partly together, and partly with the former bones, by the cap ligament, the joint ligaments, the cross ligaments in the back and sole of the foot, and the bony ligaments between them.

Ligaments of the Toes.—The bones of the toes are united partly together, and partly with the long bones by the cap and side ligaments.

Ligaments which keep the Tendons of the Muscles of the Foot in their proper place.—These ligaments are found partly in the back, and partly in the sole of the foot. They are the sheath ligament of the shin bone, the cross ligaments of the ancle, the ligaments

of the muscle that moves the foot outwards, the jagged ligament, the sheath ligament of the extending muscle and flexor of the great toe, the sheath-like and helping ligaments of the flexor tendons, and the cross ligaments of the extending tendons.

OF THE MUSCLES.

A muscle is a fibrous body divided into head, belly, and tail. The head and tail are firmly attached to the bones; the place of attachment of the former is called its *origin*, and it is usually the part nearest the trunk of the body; the latter is termed the *insertion*, which is more remote from the trunk, and is implanted in the part which is to be moved. The body adheres loosely to the other parts by means of the cellular membrane, in order that it may swell when the muscle acts. Its substance is fleshy in the belly, and tendinous in the extremities; the former is composed of fleshy fibres, which are irritable and sensible; the latter of white fibres, neither irritable nor sensible. When the tendinous extremity of a muscle is rounded, it is called a tendon; when broad and expanded, a flat tendon.

Muscles are variously named, according to the arrangement of their fibres; or from their action; or from their origin and insertion; or from their figure or situation; thus, when the fibres go in the same direction it is said to be a simple muscle; when they are in rays, a radiated muscle; where they are like a feather, a feather muscle; and where two feather muscles are attached, a compound feather muscle. Muscles sometimes surround certain cavities of the body, forming a thin sheet, as the intestinal canal, bladder, &c. They are sometimes placed round openings so as to shut or open them. Many are named from their action, as the benders or flexors, extenders, raisers, &c. Those which receive names from their origin and insertion, are very numerous as the pencil-shaped,

&c. The triangular, comb and pyramid muscles are named from their shape; and the temple, breast, tongue, &c., muscles, from their situation. Those which act together are called relations; but those that act contrarily, antagonists. Arteries, viens, and absorbents abound in the fleshy parts, but there are very few in the tendons. Nerves are also numerous in the fleshy parts, but wanting in the tendons. Muscles are the organs of motion.

MUSCLES OF THE INTEGUMENTS OF THE SKULL.

Occipital Forehead Muscle—Arises from the upper ridge of the hinder bone; its expansion covers the upper part of the head; inserted into the skin of the eyebrow and root of the nose; use, to pull the head backwards, and raise the eyebrows and skin of the forehead.

Brow Wrinkler—Arises above the root of the nose; inserted into the inner part of the occipital forehead; use, to wrinkle the brows.

MUSCLES OF THE EYELIDS.

Circular Eyelid—Arises around the edge of the orbit; inserted into the inner corner of the eyes; use, to shut the eye.

Raiser of the Upper Eyelid—Arises from the bottom of the orbit, near the optic hole; inserted into the cartilage of the palm of the upper eyelid; use, to open the eye by raising the upper lid.

MUSCLES OF THE EYEBALL.

The upper, lower, inner, and outer Straight Muscles—Arise from around the optic hole of the wedge bone at the bottom of the orbit; inserted into the front part of the outer membrane of the eyeball, opposite each other; use, to move the eyeball upwards, downwards, inwards, and outwards.

Upper Slanting, or Pulley—Arises near the optic hole, and passes through a pulley, in the internal corner of the eye; inserted

into the back part of the bulb, between the straight and the entrance of the optic nerve; use, to roll the eye, and turn the pupil outward and downward.

Lower Slanting—Arises from the nose canal, and is inserted opposite the former; use, to roll the eye.

MUSCLES OF THE NOSE AND MOUTH.

Raiser of the Upper Lip and Wing of the Nose—Arises from the nose process, of the upper jaw bone; inserted into the upper lip and wing of the nose; use, to raise the upper lip and dilate the nostrils.

Proper Raiser of the Upper Lip—Arises from the upper jaw under the orbit; inserted into the middle of the upper lip; use, to pull the upper lip directly upwards.

Raiser of the Angle of the Mouth—Arises from the orbital hole of the cheek bone; inserted into the circular hole at the corner of the mouth; use, to raise the corner of the mouth.

Larger Cheek Muscle—Arises from the cheek bone, and runs downwards; inserted into the angle of the mouth, with the depressor of the lip; use, to inflate the cheek and raise the corner of the mouth.

Smaller Cheek Muscle—Arises above the larger cheek muscle; inserted into the angle of the mouth; use, to raise the corner of the mouth outwards.

Compressor of the Cheek—Arises from the socket of the last grinders and the crow process of the jaw; inserted into the corner of the mouth, and is perforated by the salival gland, near the ear; use, to contract the cavity of the mouth and draw the angle outwards and backwards.

Depressor of the corner of the Mouth—Arises from the lower edge of the under jaw, near the chin; inserted into the angle of the mouth; use, to draw the corner of the mouth downwards.

Depressor of the Lower Lip.—Origin, lower part of the under jaw, next the chin; inserted into the middle of the under lip; use, to draw the under lip downwards and outwards.

Circular of the Mouth.—This surrounds the lips, and is in a great measure formed by the other muscles that move the lips; use, to shut the mouth by contracting the lips.

Depressor of the Upper Lip and Wing of the Nose.—Arises from the sockets of the upper front teeth; inserted into the root of the wing of the nose and upper lip; use, to pull the wing of the nose and upper lip down.

Binder of the Nose.—Arises from the root of one wing of the nose, and goes across to the other; use, to compress the wings of the nose.

Raiser of the Chin or Lower Lip.—Arises from the lower jaw at the root of the front teeth; inserted in the skin in the centre of the chin; use, to raise the under lip and skin of the chin.

MUSCLES OF THE OUTER-EAR.

Upper Ear.—Arises from the tendon of the occipital forehead above the ear; inserted into the root of the cartilaginous tube of the ear; use, to draw the ear upwards.

Front of the Ear.—Arises near the back part of the cheek; inserted into the eminence behind the outward circle of the ear; use, to raise this eminence forwards.

Back of the Ear.—Arises from the breast-like process, by two and sometimes three, little bundles; inserted into the partition dividing the hollow and shell bone of the ear; use, to draw the ear back and stretch the shell.

Greater outer circle of the Ear.—Arises from the upper, front and sharp part of the outer circle; inserted into the cartilage of the outer circle; use, to depress the upper part of the circle.

Lesser muscle of the outer circle of the Ear.—Arises from the

lower and front part of the outer circle; inserted into the leg of the outer circle; use, to contract the fissure.

Sponge—Arises from the outer and middle part of the shell, near the sponge; inserted into the upper part of the sponge; use, to depress the shell and pull the sponge.

Against the Sponge—Arises from the root of the inner part of the outer circle; inserted opposite the sponge; use, to dilate the mouth of the shell.

Cross of the Ear—Arises from the upper part of the shell; inserted into the lower part of the outer-circle; use, to draw the parts towards each other.

MUSCLES OF THE INTERNAL EAR.

The Relaxer of the Drum—Arises from the spinous process of the wedge bone; inserted into the long process of the hammer; use, to draw the hammer obliquely forward towards its origin.

Stretcher of the Drum—Arises from the cartilaginous extremity of the Eustachian tube; inserted into the handle of the hammer; use, to draw the hammer and membrane of the drum to the rocky portion.

Stirrup Muscle.—A little cavern in the hard portion, near the cells of the breast-like process; inserted into the back part of the head of the stirrup; use, to draw the stirrup obliquely upwards to the cavern.

MUSCLES OF THE LOWER JAW.

Temple Muscle—Arises from the lower part of the side bone and forehead bone, false suture of the temple bone, back part of the cheek bone, the temple-process of the wedge bone, and the expanded tendon that covers it; inserted into the crow-process of the lower jaw, its fibres being bundled together and passed into a small compass, so as to pass under the cheek; use, to move the lower jaw upwards.

Chewing Muscles—Arise in the upper jaw bone, near the cheek bone, and form the front part of the cheek; inserted into the angle of the lower jaw upwards to the basis of the crow-process; use, to raise and move the jaw a little forwards and backwards.

Inner Pen-shaped—Arises from the internal pen-process of the wedge bone; inserted into the inner side and near the corner of the lower jaw; use, to raise the lower jaw, and draw it a little on one side.

Outer Pen-shaped—Arises from the outer pen-process; inserted into the joint-process of the lower jaw and cap ligaments; use, to move the jaw and prevent the ligaments of the jaw from being pinched.

MUSCLES WHICH APPEAR UPON THE FRONT PART OF THE NECK.

Broad Muscle—Arises from the cell membrane covering the breast and triangular muscles; inserted into the side of the chin and coverings of the cheek; use, to draw the cheeks and skin of the face downwards.

Breast and Temple Muscle—Arises from the upper part of the breast bone, and fore part of the collar bone; inserted into the breast-process of the temple bone, as far back as the back suture; use, to move the head to one side, and bend it forwards.

MUSCLES BETWEEN THE LOWER JAW AND TONGUE BONE.

Two Bellied—Arises from a ditch at the root of the breast-process; inserted into the lower and front part of the chin; use, to draw the lower jaw downwards.

Grinder-muscles of the Tongue—Arise from the inner surface of the jaw bone; inserted into the base of the bone of the tongue; use, to move the tongue upwards.

Chin and Tongue Bone Muscles—Arises from the inside of the chin; inserted into the base of the bone of the tongue; use, to move the tongue bone upwards.

Chin and Tongue—Arise from the inside of the chin; inserted into the tongue and forming part of its substance; use, to move the tongue in various directions.

Bone of the Tongue—Arises from the horn, base, and cartilage of the tongue bone; inserted into the tongue on the side; use, to draw the tongue downwards and inwards.

Tongue—Arises from the root of the tongue, on the side; inserted into the tongue, on the side; use, to shorten and draw the tongue backwards.

MUSCLES BETWEEN THE TONGUE BONE AND TRUNK.

Breast and Tongue Bone—Arises from the breast and collar bone; inserted into the base of the tongue bone; use, to draw the tongue bone downwards.

Shoulder-blade and Tongue—Arises near the crow's bill process of the shoulder-blade; inserted into the base of the tongue bone; use, to draw the tongue downwards.

Breast and Shield—Arises from the upper and inner part of the breast bone; inserted into the shield-like cartilage; use, to pull the shield-cartilage down.

Shield and Tongue—Arises from part of the base and the horn of the bone of the tongue; inserted into the side of the shield cartilage; use, to raise the cartilage, and depress the bone.

Round Shield-shaped—Arises from the side of the round or ring-cartilage; inserted into the lower horn of the shield-cartilage; use, to pull the shield to the ring-cartilage.

SIDE MUSCLES BETWEEN THE LOWER JAW AND TONGUE BONE.

Pencil-tongue—Arises from the top of the pencil-process; inserted into the side of the root of the tongue; use, to pull the tongue backwards.

Pencil-tongue Bone—Arises from the base, and about the middle of the pencil-process; inserted into the base of the tongue bone; use, to draw the tongue bone upwards.

Pencil and Top of the Throat—Arises from the root of the pencil-process; inserted into the edge of the bag, at the top of the throat, and back of the shield-cartilage; use, to dilate the bag at the top of the throat, and raise the cartilage.

Palate-Stretcher—Arises near the Eustachian tube, and passes through the hook of the pen-process, to be expanded upon the hanging veil of the palate; use, to draw slantingly downwards and stretch the hanging veil.

Soft-raiser of the Palate—Arises from the point of the rocky bone, the Eustachian tube, and wedge bone; expanded upon the hanging veil, use, to pull the veil backwards and upwards.

MUSCLES ABOUT THE BACK CAVITY OF THE MOUTH.

Constrictor of the Back Cavity—Arises near the root of the tongue on each side, and goes round, to be inserted into the middle of the hanging veil, near the little grape; use, to raise the tongue and draw the veil towards it.

Palate and Back Cavity—Arises from the middle of the soft palate, goes round the back cavity, the tendon of the stretcher of the palate, and hanging veil, to be inserted into the upper and back of the shield-cartilage; use, to contract the arch of the back cavity.

Palate and Little Grape—Arises from the joining of the bones of the palate; inserted into the extremity of the little grape; use, to shorten and raise the little grape.

MUSCLES OF THE BACK PART OF THE BACK CAVITY.

Lower Constrictor of the Back Cavity—Arises from the ring and shield-cartilages; inserted into the middle of the cavity; use, to compress part of the cavity.

Middle Constrictor of the Back Cavity—Arises from the horn and appendix of the tongue bone; inserted into the compass of the back cavity; use, to compress the cavity and draw the tongue bone upwards.

Upper Constrictor of the Cavity—Arises from the pen-process, the lower jaw, and the wedge-process of the hinder bone; inserted into the middle of the cavity; use, to move the cavity upwards and forwards, and compress the upper part.

MUSCLES ABOUT THE UPPER OPENING OF THE WINDPIPE.

Hinder round Funnel-like—Arises from the round cartilage on the back part; inserted into the back of the funnel-cartilage; use, to open the upper end of the windpipe.

Side round Funnel-like—Arises from the side of the round cartilage; inserted into the side of the funnel-cartilage; use, to open the upper end of the windpipe.

Shield Funnel-like—Arises from the back of the shield-cartilage; inserted into the front of the funnel-cartilage; use, to draw the funnel forwards.

Slanting Funnel-like—Arises from the root of one funnel-cartilage; inserted into the extremity of the other; use, to draw them towards each other.

Crossing Funnel-like—Arises from one of the funnel-cartilages; inserted into the other; use, to shut the upper end of the windpipe.

Shield and upper end of the Windpipe—Arises from the shield cartilage; inserted into the side of the cartilage, upon the upper end of the windpipe; use, to pull the cartilage obliquely downwards.

Funnel upon the upper end of the Windpipe—Arises from the side of the upper part of the funnel-cartilage; inserted into the side of the cartilage, upon the upper opening of the windpipe; use, to move the end of the windpipe outwards.

MUSCLES ON THE FRONT PART OF THE ABDOMEN.

External Slanting Descending—Arises from the lower edges of the eight lower ribs, near the cartilages; inserted into the white line,* the front haunch bones, and the spine of the upper haunch bones;† use, to compress the abdomen.

Internal Slanting Ascending—Arises from the spinous process of the three last loin vertebræ, back of the sacred bone, and spine of the upper-haunch bone; inserted into the cartilages of all the false ribs, the white line, front-haunch bone, and the breast bone, by a flat tendon; use, to compress the abdomen.

Transverse Abdominal—Arises from the cartilages of the seven lower ribs, the cross-process of the four last loin vertebræ, and the spine of the upper-haunch bones; inserted into the white line through its whole length, and the sword-like cartilage; use, to compress the entrails of the abdomen.

Straight Abdominal—Arises from the outside of the breast bone and sword-cartilages; inserted into the side of the front haunch bones; use, to compress the abdomen and bend the trunk.

Pyramidal—Arises from the front upper part of the pubis, or front haunch bone; inserted into the white line below the naval; use, to assist the lower portion of the straight muscle.

MUSCLES ABOUT THE MALE ORGANS OF GENERATION.

Excoriator—By some said to be a muscle, but is nothing more than a condensation of the cell membrane, admitting of corrugation and relaxation.

Suspender—Arise from the inguinal ring and Poupart's ligament; inserted into the sheath covering the testicle; use, to draw up the testicles.

*A long narrow tendinous expansion, reaching from the sword-like cartilage to the front haunch bone.

† In this course it forms Poupart's ligament.

Erector Penis—Arises from the eminence of the bone on which we sit; embraces one leg of the penis; inserted into a strong tendinous membrane covering the hollow bodies of the penis; use, to compress the urinary passage.

Accelerator of the Urine—Arises from the constrictor anus, and above the bulb of the urinary passage; inserted into the line in the middle of the bulb; use, to compress the urinary passage.

Transverse between the Thighs—Arises from the fatty membrane covering the protuberance on which we sit; inserted into accelerator of urine and constrictor anus; use, to dilate the bulb of the urinary passage.

MUSCLES OF THE ANUS.

Constrictor—Arises from the skin and fat surrounding the orifice; inserted into the perineum, accelerator of the urine, and transverse muscles; use to shut the orifice of the anus.

Raiser of the Anus—Arises from the inner surface of the haunch bones of both sides, in a radiated form; inserted into the constrictor anus, accelerator of urine, point bone, the straight gut, neck of the bladder, &c., like a funnel; use, to draw the straight gut up after the ejection of the fecal matter, and to assist in shutting it.

MUSCLES OF THE FEMALE ORGANS OF GENERATION.

Erector Clitoris, or Female Penis—Arises from the internal leg of the hip bone; inserted into the upper part and body of the clitoris; use, to draw the clitoris downwards and make it tense.

Constrictor of the Sheath, or Vagina—Arises from the constrictor anus and side of the sheath, which it surrounds; inserted into the union of the legs of the clitoris; use, to contract the mouth of the sheath.

MUSCLES SITUATED WITHIN THE PELVIS.

Internal Pulley—Arises from the oval-hole hard ligament, and

the haunch bone; inserted into a large pit between the great protuberances of the thigh bone; use, to roll the thigh obliquely outwards.

Point Bone--Arises from the spinous process of the hip bone; inserted into the extremity of the sacred bone, and point bone; use, to move this bone forwards and backwards.

MUSCLES WITHIN THE ABDOMEN.

Midriff--The student will find it described under the class of viscera.

Flat Loin--Arises from the back part of the spine of the haunch bone; inserted into the cross-processes of the loins, and last false rib; use, to support the spine and draw it on one side.

Small Loin--Arises from the cross-processes of the last joints of the back bone; inserted into the brim of the pelvis near the socket of the hip; use, to bend the loins forwards.

Great Loin--Arises from the bodies and processes of the last back, and all the loin joints of the back bone; inserted into the thigh bone a little below the lesser great protuberance; use, to bend the thigh forwards.

Internal Twisted--Arises from the inner surface of the spine of the haunch bone; inserted into the thigh in common with the great loin; use, to assist the great loin.

MUSCLES ON THE FRONT PART OF THE CHEST.

Larger Breast--Arises from the collar bone, breast bone, and seven true ribs; inserted into the upper and inner part of the arm bone; use, to draw the arm slantingly forwards.

Under Collar Bone--Arises from the cartilage of the first rib; inserted into the under surface of the collar bone; use, to move the collar bone downwards.

Lesser Breast—Arises from the third, fourth, and fifth ribs; inserted into the crow's bill-process of the shoulder-blade; use, to roll the shoulder-blade.

Larger front Saw-like—Arises from the eight upper ribs; inserted into the base of the shoulder-blade; use, to bring the shoulder-blade forwards.

MUSCLES BETWEEN THE RIBS AND WITHIN THE CHEST.

External Ribs—Arise from the lower edge of each upper rib, inserted into the upper edge of each lower rib; use, to elevate the ribs.

Internal Rib.—Like the former, their fibres are directed from behind, forwards.

Triangular—Arises from the middle and lower part of the breast bone; inserted into the cartilages of the last five true ribs; use, to depress the cartilages of the ribs.

MUSCLES ON THE FRONT OF THE NECK, CLOSE TO THE JOINTS OF THE BACK BONE.

Long Neck—Arises, from the bodies of the three upper back joints and cross processes of the four last neck joints of the back bone; inserted into the front eminence of the second neck joint; use, to pull the neck on one side.

Larger internal straight of the Head.—Arises from the cross processes of the five last neck joints; inserted into the wedge process of the hinder bone of the head; use, to bend the head forwards.

Lesser internal straight of the Head—Arises from the fore part of the first neck joint; inserted into the hinder bone, near the cup process; use, to assist the former.

Side straight Muscle of the Head—Arises from the cross process of the first joint of the neck; inserted into the hinder bone, near the breast like process; use, to move the head to one side.

MUSCLES ON THE BACK PART OF THE TRUNK.

Four-sided, or Hood Muscle—Arises from the hinder bone, and all the spinous processes of the neck and back, inserted into the collar bone, part of the head, and spine of the shoulder-blade; use, to move the shoulder-blade, bend the neck, and pull the head backwards.

Broadest of the Back—Arises from the spine of the haunch bone, spinous process of the sacred bone, joints of the loin, and lower back; adheres to the shoulder-blade and lower false ribs; inserted into the arm bone between its eminences in the edge of the groove for the tendon of the two-headed muscle; use, to draw the arm bone backwards and roll it on its axis.

Lower back Saw-like—Arises from the spinous processes of the two last back, and three loin vertebræ; inserted into the lower edge of the three or four lowermost ribs, near their cartilages; use, to draw the ribs outwards, downwards, and backwards.

Rhomboidal—Arises from the spinous processes of the last neck joints, and four first back joints; inserted into the base of the shoulder-blade, at the upper and lower part; use, to move the shoulder-blade upwards and backwards.

The Splint—Arises from the spines of the four last neck and four upper back joints; inserted into the two first neck joints and the side of the hinder bone; use, to move the head backwards and to one side.

Upper back Saw-like—Arises from the spinous processes of the three last neck and two upper back joints; inserted into the second, third, and fourth ribs, by three fleshy tongues.

Of the back bone—Arises from two spinous processes of the loins and three lower back joints; inserted into all the spinous processes of the back bone except the first; use, to extend the joints of the back bone.

Raisers of the Ribs—Arise from the cross processes of the last neck and the back joints; inserted into the angles of the ribs; use, to lift the ribs upwards.

Sacred Loin—Arises from the sacred bone, spine of the haunch, the spinous and cross processes of the loin joints; inserted into the lower edge of each rib by a flat tendon; use, to draw the ribs downwards, to move the body upon its axis, to assist the long muscle of the back, and to turn the neck back, or to the side.

Longest of the back—Arises from the same as the former by one common broad tendon; inserted into the cross processes of all the back and one neck joint; use, to stretch the joints of the back and keep the trunk erect.

Embracer—Arises from the cross processes of the four lower neck and seven upper back joints; inserted into the middle of the hinder bone at its eminence; use, to draw the head backwards.

Neck breast-like—Arises from the cross process of the three upper back and five last neck joints; inserted into the hinder bone behind the breast-like process of the temple bone; use, to draw the head backwards.

Raiser of the Shoulder-blade Arises from the cross processes of the four upper neck joints; inserted into the upper corner of the shoulder-blade; use, to move the shoulder-blade forwards and upwards.

Half back bone—Arises from the cross processes of the seventh, eighth, ninth and tenth back joints; inserted into the spinous processes of the four upper back and last neck joints; use, to extend the spine obliquely backwards.

Many slitted Spine—Arise from the sacred bone, haunch bone, slant and cross processes of the loin joints, the cross of the back and four neck joints; inserted into the spinous processes of the loin, back and neck joints, except the first of the neck joints; use, to extend and draw backwards or to one side, the back, and prevent the back bone from leaning too much in front.

Neck Spine—Arises from the cross processes of the six upper joints of the back; inserted into the spinous processes of the five middle neck joints; use, to stretch the neck slantingly backwards.

Transverse Neck—Arises from the crossing processes of the five

upper back joints; inserted into the cross processes of the neck joints; use, to turn the neck backwards and to one side.

Larger back straight Muscle of the Head—Arises from the cross process of the second neck joint; inserted into the lower ridge of the occipital bone; use, to extend the head and draw it backwards.

Lesser back straight of the Head—Arises from the first joints of the neck; inserted into the occipital bone at its eminences; use, to assist the former.

Upper slanting of the Head—Arises from the cross process of the first neck joint; inserted into the end of the lower occipital ridge; use, to draw the head backwards.

Lower slanting of the Head—Arises from the spinous process of the second joint of the neck; inserted into the cross process of the first joint of the neck; use, to draw the face on one side.

Unequal—Arises from the upper surface of the first and second ribs; inserted into the cross processes of the neck joints; use, to move the neck forwards, or to one side.

Inter-spinal—Arises from between the spinous processes of the six lower neck joints; inserted into the spinous process of the joint above; use, to draw the spinous processes towards each other.

Inter-transverse—Arises between the transverse processes of the vertebræ inserted into transverse processes of the vertebræ above; use, to draw the transverse processes towards each other.

MUSCLES OF THE UPPER EXTREMITIES.

Upper-spinated—Arises from the base, spine, and upper edge of the shoulder-blade; inserted into the large eminence at the head of the arm bone; use, to raise the arm.

Lower spinated—Arises from the cavity below the spine of the shoulder-blade; inserted into the upper part of the same eminence; use, to roll the arm outwards.

Lesser smooth—Arises from the lower edge of the shoulder-blade; inserted into the greater eminence of the arm bone; use, to assist the former.

Greater smooth—Arises from the lower corner and edge of the shoulder-blade; inserted into the side of the groove of the long tendon of the two-headed muscle; use, to assist in rolling the arm.

Triangular—Arises from the collar bone and the head and spine of the shoulder-blade; inserted into the front and middle of the arm bone; use, to raise the arm.

Crow's-bill Arm—Arises from the crow's-bill process of the shoulder-blade; inserted into the middle and inner side of the arm bone; use, to roll the arm forwards and upwards.

Under Shoulder-blade—Arises from the base, upper and lower edge of the shoulder-blade; inserted into the protuberance at the head of the arm bone; use, to roll the arm inwards.

MUSCLES OF THE ARM BONE.

Two-headed Bender of the Fore-arm—Two heads arise from the crow's-bill process, and the other, called the long head, from the edge of the joint cavity of the shoulder-blade; inserted into the eminence at the upper end of the outer-arm, at its fore part, a little below its neck; use, to bend the fore-arm with great strength, and assist the upper muscles.

Internal arm—Arises from the arm bone on each side of the tendon of the triangle; inserted into the crow-process of the fore-arm; use, to assist in bending the fore-arm.

The Three-headed extender of the Fore-arm—Arises from the neck of the shoulder-blade, and neck and middle of the arm bone; inserted into the upper and outer part of the elbow joint; use, to extend the fore-arm.

Elbow Muscle—Arises from the outer eminence of the arm bone; inserted into the back part, or ridge of the fore-arm; use, to assist in extending the fore-arm.

MUSCLES SITUATED ON THE FORE-ARM.

Long back Muscle of the Outer-arm—Arises from the outer

joint-process of the arm bone; inserted into the outer-arm, near the pencil-process; use, to assist in turning up the palm of the hand.

Long Extender of the Wrist—Arises the same as before; inserted into the hand bone of the fore finger; use, to extend the wrist.

Shorter Extender of the Wrist—Arises the same as before; inserted into the hand bone of the middle finger; use, to assist the former.

Common Extender of the Wrist—Arises the same as before; inserted into the back of the bones of the fingers; use, to extend the fingers.

Extender of the Little Fingers—Arise the same as before; inserted into the second joint of the little finger; use, to assist in extending the fingers.

Fore-arm Extender of the Wrist—Arises the same as before; inserted into the hand bone of the little finger; use, to assist in extending the wrist.

Fore-arm bender of the Wrist—Arises from the inner eminence of the arm bone, and head of the fore-arm; inserted into the fourth bone of the first row of the wrist; use, to assist in bending the hand.

Long Palm—Arises from the inner eminence of the arm bone; inserted into the ligament of the wrist, and thence forms the expansion of the hand; use, to bend the hand.

Bender of the Wrist—Arises the same as before; inserted into the hand bone of the fore finger; use, to bend the hand.

Long Roller of the Outer-arm—Arises from the inner eminence of the arm bone, and crow-process of the fore-arm; inserted into the outer ridge of the outer-arm bone, along the middle of its length; use, to roll the hand inwards.

Short back of the Outer-arm—Arises from the outer eminence of the arm, and edge of the fore-arm; inserted into the front, inner, and part of the outer-arm; use, to roll the outer-arm outward, and assist the elbow.

Extender of the Hand bone of the Thumb—Arises from the middle of the fore-arm, bony ligament, and outer-arm; inserted into the four-sided bone and the first bone of the thumb; use, to stretch the first bone of the thumb outward.

Extender of the First Joint—Arises near the middle of the fore-arm, bony ligament, and outer-arm; inserted into the convex part of the second bone of the thumb; use, to extend the second bone of the thumb outward.

Extender of the Second Joint—Arises from the back of the fore-arm and bony ligament; inserted into the third and last bone of the thumb; use, to stretch the thumb slantingly backward.

Pointer—Arises from the middle of the fore-arm; inserted into the hand bone of the fore finger; use, to extend the fore finger.

Upper Bender of the Fingers—Arises from the inner eminence of the arm-bone, crow-process of the fore-arm, and upper part of the outer-arm; inserted into the second bone of each finger, after being perforated by the tendon of the deep finger-bender; use, to bend the second joint of the fingers upon the first, and the first upon the hand bones.

Deep bender of the Fingers—Arises from the upper part of the fore-arm and bony ligament; inserted into the fore part of the last bone of each finger; use, to bend the last joint of the fingers.

Long Thumb-bender—Arises from the upper and front part of the outer-arm; inserted into the last joint of the thumb; use, to bend that joint.

Square Outer-arm Roller—Arises from the inner and lower part of the fore-arm; inserted into the outer-arm, opposite its origin; use, to roll the outer-arm inward.

MUSCLES CHIEFLY ON THE HAND.

Finger-joint Benders—Arises from the tendons of the deep bender; inserted into the tendons of the common extender of the fingers; use, to bind the first, and extend the second joints of the fingers.

Short Thumb-bender—Arises from the square bone, ligament of the wrist and great bone; inserted into the second joint of the thumb; use, to bend that joint.

Antagonist of the Thumb—Arises from the ship bone and ligament of the wrist; inserted into the first bone of the thumb; use, to bend the thumb.

Drawer-away of the Thumb—Arises from the ligament and square bone; inserted into the root of the first bone of the thumb; use, to draw the thumb away from the fingers.

Drawer-in of the Thumb—Arises from the hand bone of the middle finger; inserted into the root of the first bone of the thumb; use, to draw the thumb to the fingers.

Abductor of the Fore Finger—Arises from the first bone of the thumb and the square bone; inserted into the first bone of the fore finger on the back part; use, to move the fore finger to the thumb.

Short Palm—Arises from the ring ligament and palm expansion; inserted into the hand bone and skin of the little finger; use, to contract the palm of the hand.

Abductor of the Little Finger—Arises from the ring ligament and pen-shaped bone; inserted into the first bone of the little finger; use, to draw the little finger from the rest.

Inner Abductor of the Little Finger—Arises from the wedge-form bone and wrist ligament; inserted into the hand of the little finger; use, to move that bone towards the rest.

Small bender of the Little Finger—Arises from the ring ligament and wedge-form bone; inserted into the first bone of the little finger; use, to draw the little finger from the rest.

Inner and Outer Bony—Situating between the hand bones, to the sides of which they are attached; use, to extend the fingers and move them towards the thumb.

MUSCLES OF THE LOWER EXTREMITIES.

Comb—Arises from the fore edge of the front haunch bone;

inserted into the upper part of the rough line of the thigh; use, to bend the thigh.

Three-headed Abductor of the Thigh—Long abductor of the thigh—Arises from the upper part of the front haunch bone; inserted into the middle and back part of the rough line; use, to bend the thigh.

Short Abductor of the Thigh—Arises from the fore part and branch of the front haunch bone; inserted into the inner and upper part of the rough line; use, to bend the thigh and move it inward.

Middle Abductor of the Thigh—Arises from the lower and front part of the front haunch bone; inserted into the whole length of the rough line; use, to move the thigh inwards, and help to bend it.

External Pulley—Arises from the hard ligament and half the shield hole; inserted into the thigh, near the root of the great head; use, to pull forward and roll the thigh.

Great Buttock—Arises from the spine of the upper haunch bone, the back sacred ligaments, and the sacred bone; inserted into the upper part of the rough line of the thigh; use, to extend the thigh and assist the rolling motion.

The Middle Buttock—Arises from the spine and upper surface of the upper haunch bones; inserted into the great head of the thigh bone; use, to assist the two former.

Least Buttock—Arises from the outer surface of the upper haunch bone and border of its great notch; inserted into the root of the great head of the thigh; use, to assist the two former.

Pear-shaped—Arises from the front part of the sacred bone; inserted into a cavity at the root of the great head; use, to roll the thigh outward.

Twin—Arises from the spine and protuberance of the hip bone; inserted into the same as the former; use, the same.

Square Muscle of the Thigh—Arises from the protuberance of the bone on which we sit; inserted into a ridge between the two great heads of the thigh bone; use, to move the thigh outward.

MUSCLES SITUATED ON THE THIGH.

Stretching Sheath—Arises from the upper spinous processes of the upper haunch bone; inserted into the inner side of the membranous bundle which covers the thigh; use, to stretch the bundle.

Tailor Muscle—Arises the same as above; inserted into the upper and inner part of the shin bone; use, to bend the leg inward.

Slender—Arises from the front haunch bones; inserted the same as above; use, to bend the leg.

Straight of the Thigh—Arises from the lower spinous process of the upper haunch bones, and the edge of the socket; inserted into the upper and front part of the knee-pan; use, as before.

Great Outer Muscle—Arises from the root of the great head of the thigh bone; inserted into the upper and side part of the knee-pan; use, to extend the leg.

Great Inner Muscle—Arises from the lesser great head and rough line of the thigh bone; inserted into the upper and inner part of the knee-pan; use, as before.

Leg—Arises from the front part of the lesser great head; inserted into the upper part of the knee-pan; use, as before.

Half-tendinous—Arises from the eminence of the bone on which we sit; inserted into the upper and inner part of the shin bone; use, to bend and draw the leg inwards.

Half-membranous—Arises from the eminence of the bone on which we sit; inserted into the back part of the head of the shin-bone; use, to bend the leg.

Two-headed Bender of the Leg—Arises as the former; inserted into the upper and back part of the shin bone, forming the outer hamstring; use, as before.

Ham—Arises from the outer joint process of the thigh bone; inserted into the upper and inner part of the shin-bone; use, to help to bend the leg.

MUSCLES SITUATED ON THE LEG.

Outer-calf—Arises from the inner and outer joint eminence of

thigh bone; inserted into the heel bone with the Achilles tendon; use, to extend the foot.

Inner-calf—Arises from the heads of the shin and outer-shin bone; inserted into the heel bone by the common Achilles tendon; use, as before.

Sole of the Foot—Arises from the outer joint eminence of the thigh bone and cap ligament; inserted into the heel bone near the Achilles tendon; use, to assist in extending the foot.

Front-shin—Arises, from the upper and front part of the shin; inserted into the internal wedge bone; use, to bend the foot.

Back-shin—Arises from the back part of the shin bone, bony ligaments, and adjacent parts of the outer-shin bone; inserted into the middle-wedge form bone, and upper part of the ship bone; use, to move the foot inwards.

Long between the Thigh—Arises from the head of the shin-bone, and upper and outer part of the outer-shin bone; inserted into the foot bone of the little toe; use, to move the foot outwards.

Short between the Thighs—Arises from the outer and front parts of the outer-shin bone; inserted into the foot bone of the little toe; use, to help the former.

Long Extender of the Toe—Arises from the upper part of the shin bone, bony ligament, and inner edge of the outer-shin bone; inserted into the first joints of the small toes by four tendons; use, to extend and separate the toes.

Proper Extender of the Great Toes—Arises from the upper and front part of the shin bone; inserted into the raised surface of the great bones; use, to extend the great toe.

Deep and long perforating Extender of the Toes—Arises from the upper and inner part of the shin bone; inserted into the last bone of the small toes by four tendons; use, to bend the last joint of the toes.

Long bender of the Great Toe—Arises a little below the head of the outer-shin bone; inserted into the last bone of the great toes; use, to extend the toes.

MUSCLES SITUATED ON THE FOOT.

Short toe Extender—Arises from the upper and front part of the heel bone; inserted into the first bone of all the toes except the little toe; use, to extend the toes.

Upper perforated short toe Extender—Arises from the lower part of the heel bone; inserted into the second bone of each small toe by four tendons which are perforated by those of the long extender of the toes; use, to bend the second joint of the toes.

Inward Drawer of the Toes—Arises from the tendons of the toes; inserted into the tendinous expansion of the upper part of the toes; use, to draw the toes inwards.

Short bender of the Great Toe—Arises from the front part of the heel bone, and external wedge-form bone; inserted into the first joint of the great toe; use, to bend the first joint of the big toe.

Abductor of the Great Toe—Arises from the inner and lower part of the heel bone; inserted into the same as above; use, to move the great toe from the rest.

Drawer-in of the Great Toe—Arises from the ligament extended from the heel bone to the square bone; inserted into the first joint of the great toe; use, to draw the great toe to the rest and bend it.

Abductor of the Little Toe—Arises from the eminence of the heel bone, and foot bone of the little toe; inserted into the first joint of the little toe externally; use, to draw the toe outwards.

Short Bender of the Little Toe—Arises from the root of the foot bone of the little toe; inserted into the root of the first bone of the little toe; use, to bend the little toe.

Cross of the Foot—Arises from the ligament connecting the bones of the instep; inserted into the tendon of the abductor of the great toe; use, to contract the foot.

Inner and Outer Bony of the Foot—Situated between the foot bones; use, to draw the small toes towards the great toe, and help to extend the toes.

PHYSIOLOGY AND PHENOMENA OF MUSCULAR MOTION.

Muscular motions are of three kinds, namely, *voluntary*, *involuntary* and *mixed*. The voluntary motions are such as proceed from an exercise of the active power of the will; thus, the mind directs the arm to be raised, the tongue to be moved, &c. The involuntary are those which are performed by organs; seemingly of their own accord, without any attention of the mind, or consciousness of its active power; as the contraction and dilatation of the heart, arteries, veins, absorbents, stomach, intestines, &c. The mixed motions are, those which are in part under the control of the will, but which ordinarily act without our being conscious of their acting; as is perceived in the muscles of respiration, the abdominal muscles, and the midriff.

When a muscle acts, it becomes shorter and thicker; both its origin and insertion are drawn towards its middle. The constricting muscles are always in action; and so likewise are antagonist muscles, even when they seem at rest. When two antagonist muscles move with equal force, the part which they are designed to move remains at rest; but if one of the antagonist muscles remains at rest while the other acts, the part is moved towards the centre of motion.

All the muscles of living animals are constantly endeavoring to shorten themselves.

When a muscle is divided it contracts. If a muscle be stretched to a certain extent, it contracts and endeavors to acquire its former dimensions, as soon as the stretching cause is removed; this takes place in the dead body; in muscles cut out of the body, and in parts not muscular, and is called the *elastic principle*. It is greater in living than in dead bodies, and constitutes the *tone* of the muscles.

When a muscle is wounded, touched, or otherwise irritated, it contracts independent of the will; this power is called *irritability*.

It is a property peculiar to and inherent in, the muscles. The parts of our body which possess this property, are called irritable, as the heart, arteries, muscles, &c., to distinguish them from those parts which have no muscular fibres. With regard to the degree of this property, peculiar to various parts, the heart is the most irritable, then the stomach and intestines; the midriff, the arteries, veins, absorbents, and at length the various muscles follow; but the degree of irritability depends upon the age, sex, temperament, mode of living, climate, state of health, &c. and likewise upon the nature of the stimulus.

When a muscle is stimulated, either through the medium of the will, or any foreign body, it contracts, and its contraction is greater or less in proportion as the stimulus applied is greater or less. The contraction of the muscles is different according to the purpose to be served by contraction: thus, the heart contracts with a jerk; the urinary bladder, slowly and uniformly; puncture a muscle and its fibres vibrate; and the abdominal muscles acts slowly in expelling the contents of the rectum. Relaxation generally succeeds the contraction of muscles, and alternates with it.

The *use* of this property is very considerable; for upon it depends all muscular motion, and every function except that of the nerves.

OF MUCILAGE SACS, AND JOINTS.

Those surfaces of bones which form the moveable joints, are invested, besides the cap and other ligaments, by a thin delicate membrane. The mucilaginous membrane forms a complete sac or bag, which covers the particular surface of one bone, and is reflected from it to the corresponding surfaces of the other; adhering firmly to each of the joint surfaces, and extending loosely from the margin of one surface to that of the other.

It is thin and very flexible, but strong. It secretes or effuses from its surface a liquor called mucilage; which is particularly

calculated to lubricate the parts that move upon each other. This fluid is very nearly transparent: it has the consistence of a thin syrup, and is very tenacious or ropy.

There are, in many of the joints, masses of fat, which appear to project into the cavity, but are exterior to the mucilage membrane. They are generally situated so as to be pressed gently, but not bruised by the motions of the bones.

The mucus membrane, like other parts of the joints, is insensible in a sound state; but extremely painful when inflamed.

There is another species of mucus bags, which are found between the tendons and bones, near the joints, and in other places also. They are formed of a thin dense membrane, and are attached to the surrounding parts by cellular substance; they contain a mucus fluid; and sometimes there are masses of fat, which, although exterior to them, appear to project into their cavities.

They often communicate with the cavities of the joints; and being always situated upon parts that move upon each other, their use, undoubtedly is, to lessen friction.

These mucus bags are very numerous, and some of them are very interesting, on account of their connexion with important joints; but as a particular description of them would be tedious, and of little benefit, it is omitted.

DOCTRINE OF THE VESSELS.

Vessels are long membranous canals, which carry blood, lymph, or chyle. They are divided into arteries, veins, and absorbents. Except the scarf skin and the nails, every part of the body has vessels, as injections demonstrate.

OF THE ARTERIES.

Arteries are elastic membranous canals, which pulsate; they always become narrow as they proceed from the heart towards

the extremities. They originate from the two ventricles of the heart, viz. the lung artery, from the right, and the fountain artery (aorta) from the left ventricle; so that there are only two arteries, of which all the rest are branches. The arteries terminate in veins, exhaling vessels, or they unite with one another. They are composed of three membranes called coats: an external one, a middle coat, which is muscular, and an inner which is smooth. Their use is to convey the blood from the heart to the different parts of the body, for nutrition; preservation of life; generation of heat; and the secretion of different fluids.

THE FOUNTAIN.

Arises from the left ventricle of the heart, forms an arch toward the back joints, then descends through the opening of the midriff into the abdomen, in which it proceeds by the left side of the spine, to the last loin vertebræ, where it divides into the two flank arteries.

In this course it gives off, just above its origin, two crowning arteries to the heart, and then forms an arch.

The ARCH of the fountain gives off three branches, which supply the head, neck, and arms with blood; these are,

The FIRST BRANCH, which divides into the right head, and the right chest arteries.

II. The LEFT HEAD.

III. The LEFT CHEST.

The HEAD ARTERIES, having emerged from the chest, run up along the neck, one on each side of the windpipe, to the angle of the lower jaw, where they divide into the external and internal.

The EXTERNAL HEAD gives off eight branches to the neck and face: 1. Shield-artery, which is very serpentine, supplies the shield gland, and gives off branches to several adjacent muscles. 2. Tongue artery, lies flat on each side of the tongue, and gives off branches to the tongue bone, back of the tongue, and under tongue. 3. Lip Artery, also called the outer-jaw, angular and

face artery; it gives off the lower palate, under chin, and lip arteries. 4. Lower arteries of the back cavity of the mouth; sends a number of small twigs about the back of the mouth, and base of the skull. 5. The occipital artery, from which the back temple artery arises. 6. Back ear artery, which furnishes the parts about the cartilages of the ear with blood, and transmits the drum artery and pencil-breast artery. 7. Inner jaw artery, is extremely serpentine, and gives off: the sinous artery, to the outer membrane of the brain; the lower jaw artery, which is included in the lower jaw, and supplies the teeth and face; the pen arteries, which nourish the pen muscles; two deep temporal arteries which lie wider than the temple muscle. The inner jaw artery then gives off a branch, which divides almost immediately into the teeth socket artery, and lower orbital; then an artery to the palate; the upper back cavity of the mouth artery, which plays about the wedge canal; and lastly, the nose artery, which is transmitted through the wedge palate hole, to the cavity of the nostrils. 8. Temple artery, which perforates the salival glands, near the ear, and sends off the crossing artery of the face, which unites with the arteries of the face; and several branches which go to the ear, forehead, and about the temples.

The INTERNAL HEAD, or artery of the brain, leaves the external at the angle of the jaw, and proceeds by the eighth pair of nerves and rib nerve, to the carotid canal in the rocky portion of the temple bone, where it is shaped like the letter *f*, and enters the skull at the side of the pituitary cavity, having given off two very small twigs to the nose gland, and third, fourth, and fifth pair of nerves; and when it has reached the front couch process, it sends off—1. Eye artery, which is distributed on the eye. 2. Front Brain artery, which proceeds before the pituitary cavity, unites with its fellow, and forms the circle of Willis, from which a branch proceeds to the third ventricle, shining partition, and the artery of the callous body. 3. A middle brain artery, which runs between the front and middle lobes of the brain, gives off the artery

of the net-work membrane, and is lost in the middle lobe of the brain. 4. The communicating artery, which proceeds backwards and soon unites with the vertebral.

The RIGHT CHEST ARTERY arises from the FIRST BRANCH, and the LEFT from the arch of the fountain. Each chest artery gives off five branches:

1. The Internal Breast, from which arise, the water artery, to the midriff, and the membrane of the heart.
2. The Lower Shield, from which arise, the shield branch arteries, the windpipe arteries, the ascending shield, and the transverse arm arteries.
3. The Vertebral artery, which proceeds into the vertebral holes, to ascend into the cavity of the skull, where it unites with its fellow upon the wedge process of the hinder bone, and forms the Basillary artery, which immediately gives off the back artery of the hinder brain; it then proceeds upon the ring eminence to give off four branches, two to the right, and two to the left, which constitute the front arteries of the hinder brain, which branch to the legs of the hinder brain, the hinder brain, worm, legs of the brain, four twin bodies, pine-apple gland, and fourth ventricle; and the back artery of the brain, which is joined by the communicating artery, and supply the chambers of the optic nerves, the double centre, the funnel, and legs of the arch, and the back lobes of the brain, uniting with several arteries.
4. The Deep Neck artery.
5. The Superficial Neck artery, both of which are distributed about the muscles of the neck.
6. Upper rib artery, which lies between the two upper ribs.
7. Upper Shoulder Blade artery, which sometimes arises from the shield artery, where it is called the cross of the arm.

As soon as the chest artery has arrived in the arm-pit, it is called the arm-pit artery, which runs into the arm where it is called the arm artery.

The arm-pit artery gives off—1. The four breast arteries, which supply blood to the muscles about the breast. 2. The Under Shoulder-blade, which supplies the lower surface of the shoulder.

blade. 3. The Back Circular artery, and 4. The Front Circular artery, which ramify about the joint.

The arm artery gives off—1. Many side vessels. 2. The Upper deep artery of the arm. 3. Lower deep artery of the arm. 4. Great communicating branch, which communicates round the elbow joint.

The arm artery then becomes the fore-arm artery, and gives off the outer-arm artery.

1. The fore-arm artery sends off the recurrent branches, which unite with the great communicating branch. 2. Common inner bony artery. It then sends small branches to the adjacent muscles as it proceeds down to the wrist; just before it arrives here, it gives off the back fore-arm artery, which goes round to the back of the little finger. At the wrist it gives off the deep palm artery; then forms a great arterial arch, called the superficial palm arch, which supplies branches to the fingers.

The outer-arm artery gives off the outer-arm recurrent, proceeds to the wrist, where the pulse is felt, and gives off the superficial of the palm of the hand, then divides into the artery of the back of the thumb, the outer-arm artery of the fore-finger, great artery of the thumb, and deep palm artery.

The DESCENDING FOUNTAIN gives off, in the breast—

1. The arteries which nourish the lungs.
2. The arteries of the gullet, or food canal.
3. The arteries between the ribs.
4. The lower midriff.

Within the abdomen, or belly, it gives off eight branches.

The belly artery, which divides into three branches.

1. The liver artery, which gives off—*a.* the duodenum gastric artery, which sends off the right gastric caul artery, and the pancreatic artery. The latter transmits the lower hairy, and the transverse pancreatic arteries. *b.* The upper hairy liver artery.

The liver artery then ramifies through the liver.

2. The gastric artery, which gives off the upper crown and upper hairy arteries.

3. The spleen artery, from which arise the greater and lesser pancreatic arteries, the hinder gastric arteries, the left caul artery, and the short artery.

2. The upper mesenteric arteries, of which the right middle and small-gut colic arteries are branches.

3. The kidney arteries, are short, and divide into three or four branches in the basin of the kidney.

4. The spermatic arteries, which are very small and long, and proceed with the spermatic cord to the testicles.

5. The lower mesenteric artery, from which arises the left colic artery, and the internal pile artery.

6. The loin arteries, which nourish the muscles and joints of the loins.

7. The middle sacred artery, which is distributed about the sacred bone.

The descending fountain then divides, and becomes the two **FLANK ARTERIES**; and these soon divide into internal and external.

Each **EXTERNAL FLANK** artery gives off five branches: 1. The side sacred arteries, three or four in number. 2. The buttock, which ramify about the haunch-bone, and supply the buttock muscles. 3. The artery of the hip-bone, which turns downwards along the hip and gives off the point-bone artery. 4. The front, or share artery, which is sometimes a branch of the sciatic artery; it proceeds out of the pelvis, through the sciatic notch, returns into the pelvis, and runs towards the union of the front bones. In its course it gives off branches to the little seed vessels, the gland at the neck of the bladder, and the lower pile artery to the anus, then forms the artery between the thigh and the penis arteries, which proceed one on each side; and a branch which plunges deep into the substance of the penis. 5. The hardener, which passes through the oval hole, and is distributed on the thick muscles of the thigh.

Each **EXTERNAL FLANK** gives off—1. The lower belly artery, which is reflected from Poupart's ligament upwards along the ab-

domen. 2. The circular flank artery, runs along the crest haunch of the bone.

The external flank then passes under Poupart's ligament, becomes the thigh artery, and is continued along the thigh into the ham artery. In this course it gives off near the groin—1. The deep artery of the thigh, which gives off the first, second, third and fourth perforating arteries, which supply the muscles of the thigh. The thigh artery then makes a spiral turn round the thigh bone, and sends off small branches to adjacent muscles. About two hands breadth from the knee, it gives out—2. The great joining branch, which ramifies about the knee joint.

The thigh artery having reached the ham, it is called the Ham artery, which gives off several small branches about the joint, and divides below the ham into the front shin and back shin arteries.

The FRONT SHIN artery soon perforates the bony ligament, and passes along the shin over the bones of the base of the foot, and there joins with the back artery. In this course it gives off—1. The recurrent, which unites with the joint branches of the ham: it then sends off small branches to the muscles as it passes down the leg. 2. The inner ancle artery, about the inner ancle. 3. The outer ancle artery. 4. The instep artery. 5. The foot artery, about the tendons of the foot bones. 6. The back external great toe artery, which runs along the foot bone of the great toe.

The BACK SHIN artery passes along the back part of the bone, goes round the inner ancle and divides at the heel into the sole of the foot arteries. In this course it sends off—1. The nourishing artery of the shin, which gives branches to the ham, front shin, and sole of the foot muscles, before it enters the bone. 2. Many small branches, as it passes downwards. 3. Inner sole of the foot artery, runs on the inner edge of the sole of the foot, and sends four branches about the foot. 4. External sole of the foot, which forms an arch and joins with the front shin artery, and gives off the toe branch.

LUNG ARTERY.

The LUNG ARTERY arises from the right ventricle of the heart, and conveys the blood into the lungs, that is returned to the heart by the veins: not for their nutrition, but to receive from the air in the lungs a certain principle, necessary for the continuance of life, and which the arterial blood distributes to every part of the body. It soon divides into a *right* and *left*, the right going to the right lung, and the left to the left lung, where they divide into innumerable ramifications, and form a beautiful net-work upon the air vessels, and then terminate in the lung veins.

THE ACTION OF THE ARTERIES.

The arteries, by the impulse of the blood from the ventricles of the heart, are dilated and irritated, and by means of their muscular coat, contract upon the blood, and thus propel it to the glands, muscles, bones, membranes, and every part of the body, for their nutrition and the various secretions, and then into the veins.— This dilatation and contraction is called the *pulse*, which is perceptible in the trunks and branches of the arteries, but not in the fine vessels of the surface, except when inflammation is going on.

OF VEINS.

Veins are membranous canals, which do not pulsate: they gradually become larger as they advance towards the heart, in which they terminate, and bring back the blood from the arteries. They originate from the extremities of the arteries, by arising out of them. The termination of all the veins is into the auricles. They

run by the sides of the arteries, but more superficially. They are composed, like arteries, of three membranes, but which are half transparent and more delicate. *Valves* are thin semi-lunar membranous folds, which prevents the return of the blood in the vein.

The blood is returned from every part of the body into the right auricle:—The upper cave vein receives it from the head, neck, chest, and upper extremities: the lower cave vein from the abdomen and lower extremities; and the crown vein receives it from the crown arteries of the heart.

THE UPPER CAVE VEIN.

This vein terminates in the superior part of the right auricle, into which it evacuates the blood, from the right and left chest veins, and the single vein.

The right and left chest veins receive the blood from the head and upper extremities, in the following manner.

The veins of the fingers receive their blood from the finger arteries, and empty it into—1. The vein which runs on the back of the hand along the thumb, and evacuates itself into the external outer-arm vein. 2. The saving vein, which runs along the little finger, unites with the former, and empties its blood into the inner and outer fore-arm veins. At the bend of the fore-arm are three veins, the great head vein, the king vein, and the middle vein.

The *great head* runs along the upper part of the fore-arm, and receives the blood from the external outer-arm vein.

The *king vein* ascends on the under side, and receives the blood from the external and internal fore-arm veins, and some branches accompanying the arm artery, called the satellite veins.

The *middle vein* is in the middle of the fore-arm, and arises from several branches. These three veins all unite above the bend of the arm, and form,

The *arm vein*, which receives all their blood, and is continued into the arm-pit, where it is called

The *arm-pit vein*. This receives also the blood from the shoulder-blade, and upper and lower parts of the chest; it then passes under the collar-bone, and unites with the external and internal jugular veins, and the vertebral vein, which brings the blood from the vertebral canals; it receives also the blood from the partition of the chest, membrane of the heart, midriff, wart, internal breast, and end of the wind-pipe veins, and then unites with its fellow to form the upper cave vein.

The blood from the external and internal parts of the head and face is returned in the following manner into the external and internal jugulars, which empty into the chest veins under the collar bone.

The forehead, angular, temple, ear, under the tongue, and occipital veins, receive the blood from the parts after which they are named; these all converge to each side of the neck, and form a trunk, called the *external jugular vein*.

The blood from the brain, hinder brain, oblong marrow, and membranes of these parts, is received into the veins of the outer membrane of the brain, one of which empties through the lacrated hole in the base of the skull into the internal jugular vein, which descends into the neck by the head arteries; receives the blood of the shield and inner jaw veins, and empties into the chest vein, under the collar-bone.

The *single vein* receives the blood from the throat, upper part of the gullet, vertebral, and rib veins, and empties into the upper cave vein.

LOWER CAVE VEIN.

This vein is the trunk of all the abdominal veins, and those of the lower extremities, from which the blood is returned in the following manner:

The veins of the toes form on the back of the foot three bran-

ches, one on the great toe, a visible vein along the small toe, and one on the back of the foot, and they empty themselves into the veins on the sole of the foot.

The three veins on the upper part of the foot, coming together above the ankle, form the *front shin vein*; and the sole of the foot veins, with a branch from the calf of the leg, form the *back shin vein*. A branch also ascends in the direction of the outer shin-bone. These three branches unite before the ham, in one branch, the *under-ham vein*, which ascends through the ham, carrying all the blood from the foot; it then proceeds upon the fore part of the thigh, where it is called the *thigh vein*, receives several muscular branches, and passes under Paupart's ligament into the cavity of the pelvis, where it is called the *external flank vein*.

The arteries which are distributed about the pelvis evacuate their blood into the *external pile veins*, the *lower belly veins*, the *inner secret veins*, the *great vein of the penis*, and *hardener veins*, all of which unite in the pelvis, and form the *internal flank vein*.

The external flank vein receives the blood from the external pudendal veins, and then unites with the internal flank at the last vertebræ of the loins, and form the LOWER CAVE vein, which ascends on the right side of the spine, receiving the blood from the sacred loin, right spermatic veins, and the liver cave vein; and arriving at the midriff, it passes through the right hole, and enters the right auricle of the heart; into which it evacuates all the blood from the abdominal viscera, and lower extremities.

LIVER CAVE VEIN.

This vein ramifies in the substance of the liver and brings the blood into the lower cave vein from the branches of the *gate vein*, a great vein which carries the blood from the abdominal viscera into the substance of the liver. The trunk of this vein, about the fissure of the liver in which it is situated, is divided into liver and abdominal portions. The abdominal portion is composed of *spleen*,

mesentery and *internal pile veins*. These three branches carry all the blood from the stomach, spleen, pancreas, caul, mesentery, gall-bladder, and the small and large intestines, into the canal of the *gate vein*. The liver portion of the gate vein enters the substance of the liver, divides into innumerable branches which secrete the bile, and the superfluous blood passes into the corresponding branches of the liver cave vein.

THE ACTION OF THE VEINS.

Veins do not pulsate; the blood which they receive from the arteries flows through them very slowly, and is conveyed to the right auricle of the heart by the contractility of their coats, the pressure of the blood from the arteries, the contraction of their muscles, and respiration; it is prevented from going backwards in the vein by the valves of which there are a great number.

OF THE ABSORBENTS.

Absorbents are very thin and pellucid vessels, which carry the lymph from every part of the body—substances applied to the surface of the body, and the chyle from the intestines—into the chest canals. They are divided into *milky* and *lymphatic*. They are called milky absorbents in the intestinal membrane, lymphatics in every other part. Their figure is branching, becoming broader as they proceed towards their termination. Their valves are numerous, giving them a knotted appearance. They are supposed to exist in every part of the body, although they have not yet been detected in some, as the brain, &c. They originate in the cellular membrane, the viscera, the external surface, and every part

of the body; and terminate in the chest canal, or chest veins.—Lymphatic glands are situated every where in the course of the lymphatics.

The use of the absorbents is to carry back the lymph from different parts; to convey the chyle from the intestines to the chest canal, where they become mixed and diluted; and to absorb substances from the surfaces on which they originate.

ABSORBENTS OF THE HEAD AND NECK.

Absorbents are found on the scalp and about the viscera of the neck, which unite into a considerable branch that accompanies the jugular vein. Absorbents have not been detected in the human brain; yet there can be no doubt of their being such vessels: it is probable that they pass out of the skull through the canals of the head arteries and lacerated hole in the base of the skull, on each side, and join above the jugular branch, which passes through some glands as it proceeds into the chest to the angle of the chest and jugular vein.

ABSORBENTS ON THE UPPER EXTREMITIES.

The absorbents of the upper extremities are divided into superficial and deep seated. The superficial absorbents ascend under the skin in every direction to the wrist, from whence a branch proceeds upon the back surface of the fore-arm to the head of the outer-arm; over the internal joint eminence of the arm-bone, up to the arm-pit, receiving several branches as it proceeds. Another branch proceeds from the wrist along the inner part of the fore-arm, and forms a net-work with a branch coming over the fore-arm bone, from the back part, and ascends on the inside of the arm-bone to the glands of the arm-pit.

The deep-seated absorbents accompany the larger blood vessels, and pass through two glands about the middle of the upper-arm,

and ascend to the glands of the arm-pit. The superficial and deep-seated absorbents having passed through the arm-pit glands, form two trunks, which unite into one, to be inserted with the jugular absorbents into the chest duct, at the angle formed by the union of the chest and jugular veins.

ABSORBENTS OF THE INFERIOR EXTREMITIES.

These are also superficial and deep-seated. The superficial ones lie between the skin and muscles. Those of the toes and foot, form a branch which ascends upon the back of the foot, over the tendons of the front leg muscle, forms with the other branches a net-work above the ancles, then proceeds along the shin-bone over the knee, sometimes passes through a gland, and proceeds up the inside of the thigh to the groin glands.

The deep-seated absorbents follow the course of the arteries, and accompany the thigh artery, in which course they pass through some glands in the leg and above the knee, and then proceed to some deep-seated groin glands.

The absorbents from about the external parts of generation, as the penis, between the thighs, and from the external parts of the pelvis, in general proceed from the groin glands. The deep groin, and groin glands send forth several branches, which pass through the abdominal ring into the cavity of the abdomen.

ABSORBENTS OF THE ABDOMINAL AND CHEST VISCERA.

The absorbents of the lower extremities accompany the external flank artery, where they are joined by many branches from the womb, bladder, spermatic cord, and some branches accompanying the internal flank artery; they then ascend to the sacred bone, where they form a net work, which proceeds over the loin muscles and meeting with the milk absorbents of the mesentery, form the THORACIC, or chest canal, the trunk of the absorbents, which is of

a serpentine form, about the size of a crow's quill, and runs up the joints of the back through the back opening of the midriff between the fountain and single vein, to the angle formed by the union of the chest and jugular veins. In this course it receives

The absorbents of the kidneys, which are superficial and deep-seated, and unite as they proceed towards the chest canal;

The absorbents of the spleen, which are upon its enclosing coat, and unite with those of the pancreas;

A branch of the net-work of vessels passing above and below the duodenum, or second stomach, and formed by the absorbents of the stomach, which come from the lesser and greater curvature, and are united about the lower orifice of the stomach with those of the pancreas and liver, which converge from the external surface and internal parts towards the gate of the liver, and also by several branches from the gall-bladder.

PHYSIOLOGY OF ABSORPTION.

Absorption is the taking up of substances which are applied to the mouths of absorbing vessels; thus, the chyle is absorbed from the intestinal tube by the milk vessels; the vapour of circumscribed cavities, and of the cells of the cellular membrane, by the lymphatics of those parts; and thus mercury and other substances are taken into the system when rubbed on the skin.

The principle by which this absorption takes place is a power inherent in the mouths of absorbing vessels, depending on the high degree of irritability of their internal membrane, by which the vessels contract and propel the fluid forwards. Hence, the use of this function appears to be of the utmost importance, viz. to supply the blood with chyle; to remove the superfluous vapors of circumscribed cavities, otherwise dropsies would be continually taking place; to remove the superfluous vapor from the cellular membrane dispersed throughout every part of the body, that an accumulation of lymph may not take place; to remove the hard and soft parts of the body; and to convey into the system the medicines which are applied to the surface of the body.

FORMATION OF BLOOD.

The making of blood appears to be nothing more than the mixing by the action of the blood vessels, of the chyle with the blood; for as it passes from the chest vein, it changes its color, and when it has reached the heart, cannot be distinguished from the mass of circulating blood.

DOCTRINE OF THE NERVES.

Nerves are long whitish cords, composed of bundles of fibres, which serve for sensation. Their origin is in the brain, hinder brain, oblong marrow and spinal marrow; and their termination is in the organs of sense, the viscera, vessels, muscles, bones, &c. They are divided into trunks, branches, little branches, nervous fibres, and knots. In substance they are pulpy. Division, into brain and spinal. Number, thirty-nine pair; nine pair of brain nerves, and thirty pair of spinal.

The nine pair of brain nerves, are: 1. The smelling. 2. The optic. 3. The mover of the eye. 4. The pathetic. 5. The triple-twin. 6. The abducent. 7. The ear and face. 8. The great sympathetic nerves. 9. The tongue pair. The thirty pair of spinal nerves are divided into eight pair of neck, twelve pair of back, five pair of loin, and five pair of sacred nerves. Their use is, for sensation in the sensible parts, for the five external senses, as touch, sight, hearing, smelling and taste; and for the motion of the muscles.

NERVES OF THE BRAIN.

The first pair, or *smelling nerves*, arise from the hollowed bodies, pass forwards over the wedge and forehead bones, one to each side of the pituitary cavity, where they send off a number of branch-

es, which go through the sieve-holes of the sieve-bone, to be distributed on the pituitary or mucus membrane of the nose. Use, for smelling.

The second pair, or *optic nerves*, arise from the bed of the optic nerve, cross each other, then pass through the optic holes and perforate the bulb of the eye, and in it form the *retina*, which is the organ of vision.

The third pair, or *movers of the eye*, arise from the legs of the brain, pass forward towards the rocky portion of the temple-bone, where they perforate the outer membrane of the brain, and proceed to the orbital fissure, to be inserted into the muscles of the bulb of the eye, which they move.

The fourth pair, or *the pathetic nerves*, arise from the legs of the hinder brain on their side, pass forwards, pierce the outer membrane of the brain below the third pair, and proceed with them through the orbital fissure, to be inserted into the pulley of the eye.

The fifth pair, or *triple-twin nerves*, arise from the front part of the legs of the hinder brain, and are divided within the cavity of the skull into three branches, viz: the orbital, and upper and lower jaw nerve.

The *orbital nerve* gives off a branch near its origin, which unites with a branch of the sixth pair, to form the great rib nerve: it then divides into three branches, the forehead, which goes through the eye brow hole to the muscles and integuments of the forehead; the tear nerve, which goes to the tear gland; and the nasal nerve, which goes to the inner corner of the eye, where it gives off a branch or two, then returns into the skull, and passes through the sieve plate of the sieve-bone, and is distributed on the inner membrane of the nose.

The *upper jaw nerve* goes through the round hole, is divided into, 1st. The wedge-palate nerve, which goes through the wedge-palate hole, sends twigs to the internal pen-shaped muscle, then enters the cavity of the nostrils, and is lost on the Eustachian tube, soft palate, and nose canal of the wedge-bone. 2d. The *back tooth*,

socket branch descends through the hole by the last grinder, and is distributed to the grinders. 3d. The *lower orbital* nerve, goes through the lower orbital hole, and is distributed on the muscles of the cheek, nose, lips, and communicates with the face nerve.

The *lower jaw* goes out of the skull through the oval hole, giving branches to the muscles and glands in its course, and to the face nerve, and divides as it passes over the pen-muscle into—1st. The inner tongue, which is connected with the cord of the drum of the ear, and supplies the under tongue glands and contiguous muscles, but more especially the tongue. 2. The more proper *lower jaw* nerve, which goes into the mental canal of the lower jaw and gives a branch to each tooth, and comes out again to supply the lower lip and chin.

The sixth pair, or *abducting nerves*, arise from the back part of the front branch of the legs of the hinder brain, proceed forwards, perforate the outer membrane of the brain, and send off some branches near the pituitary cavity, which unite with branches of the orbital nerve of the fifth pair, to form the great rib nerve; they then accompany the third and fourth pair through the orbital fissure, and are distributed on the straight external muscles of the eye.

The seventh pair, or *ear nerves*, originate on each side by two branches, the hard portion and soft portion. The hard portion arises from the fourth ventricle of the brain, passes through the rocky portion of the temple-bone, where it gives off the cord of the drum, proceeds through the pencil breast hole, perforates the salival gland near the ear, then divides into seven or eight branches, which constitute the goose-foot, and supply the salival gland, the ear, muscles of the face, and communicates with the branches of the fifth pair on the face.

The soft portion arises from the oblong marrow, and the fourth ventricle, enters the inner ear passage, and is distributed by innumerable branches on the membrane of the shell and porch, forming the immediate organ of hearing.

The eighth pair, arise by several branches, partly from the oblong marrow, and partly from the fourth ventricle. It is connected at its origin with Willis' accessory nerves, which ascend through the great occipital hole from the fifth neck nerve; these nerves proceed together through the lacerated hole in the base of the skull. The accessory nerves then separate from the eighth pair, and vanish in the breast, and square muscles of the shoulder-blade. The eighth pair then gives off branches in the neck to the tongue, top of the windpipe, and shield gland; and then descends into the cavity of the chest where it gives off—

1st. The *right* and *left recurrent*: or running back; the former rises on the right side under the chest artery, which it surrounds and then returns upwards to the shield gland: the latter arises under the arch of the fountain, which it surrounds, and then ascends to the food canal. Both nerves are lost in the muscles of the top of the windpipe and gullet.

2. Several branches, which proceed to the upper part of the enclosing membrane of the heart, to form, with other nerves, the *heart net-work*, which sends branches to the heart.

3d. The eighth pair then extends on the back surface of the lungs, on each side, and gives off some branches, which, with others, from the heart net-work, and recurrent nerves, form a right and left *lung net-work*, which supplies the lungs and windpipe.

4th. Both trunks of this nerve then descend with the food canal and give off many little branches, which form the *food canal net-work*, from which the food canal and adjoining parts are supplied.

5th. Having passed the diaphragm, or midriff with the gullet, they form, about the upper opening of the stomach, two *stomachic net-work*: the front is expanded upon the front surface of the stomach and its greater curvature; the back, over its back surface and lesser curvature, and it transmits also branches to the liver, pancreas and diaphragm.

6th. The eighth pair also sends some branches to unite with the great rib nerve, and thus concurs in forming the *liver, spleen, and kidney net-works*.

The ninth, or *tongue pair* of nerves, rise from the oblong marrow, between the olive shape and pyramidal bodies, pass out of the skull through the joint holes, and communicate with the eighth pair and first pair of neck nerves: they then proceed forwards between the jugular vein and head artery, to be distributed on the tongue and bones of the tongue.

Thus it appears, that the smelling, optic, and moving nerves of the eye, arise from the brain; the pathetic, abducting and triple-twin, from the hinder brain, and the ear, sympathetic, and tongue nerves, from the oblong marrow.

NERVES OF THE SPINAL MARROW.

Those nerves are called *spinal* which pass out through the side holes, between the joints of the spine. They are divided into *neck, back, loin, and sacred* nerves.

NECK NERVES.

The neck nerves are *eight* pairs. The first are called *occipital*; they arise from the beginning of the spinal marrow, pass out between the margin of the occipital hole and atlas, form a ganglion on its transverse process, and are distributed about the occiput and neck.

The *second* pair of neck nerves send a branch to the accessory nerve of Willis', and proceed to the salival gland and external ear.

The *third* pair supply the coverings of the shoulder-blade, the square and triangular muscle, and send a branch to the diaphragmatic nerves.

The fourth, fifth, sixth, seventh and eighth pair, all converge to form the *arm net-work*, from which arise the six following:

NERVES OF THE UPPER EXTREMITIES.

The *arm-pit nerve*. It runs backwards and outwards around the neck of the arm bone, and ramifies in the muscles of the shoulder-blade.

The *outer-skin*, which perforates the crow-arm muscle to the bend of the arm, when it accompanies the middle vein as far as the thumb, and it is lost in its integuments.

The *inner-skin*, which descends on the inside of the arm, where it divides. From the bend of the arm, the front branch accompanies the king vein, to be inserted into the skin of the palm of the hand; the back branch runs down the internal part of the fore-arm, to disappear in the skin of the little finger.

The *middle-nerve*, which accomanies the arm artery to the fore-arm, then passes between the internal arm muscle, round the rotating, and perforating muscles, under the ligament of the wrist, to the palm of the hand, where it sends off branches in every direction, to the muscles of the hand, and then supplies the nerves which go to the extremities of the thumb and fore and middle fingers.

The *fore-arm nerve* descends between the arm artery and king vein, between the internal joint eminence of the arm-bone, and the elbow point, and divides in the fore-arm into an outer and inner branch; the former passes over the ligament of the wrist and corn bone of the hand, where it divides into three branches, two of which go to the ring and little finger, and the third forms an arch towards the thumb in the palm of the hand, and is lost in the contiguous parts. The latter passes over the tendon of the fore-arm extender of the wrist and back of the hand, to supply also the two last fingers.

The *outer-arm nerve* passes backwards about the arm-bone, descends on the outside of the arm, between the internal and external arm-muscles, to the fore-arm bone; then proceeds between the long and short upper muscle, to the upper end of the outer-arm, giving off various branches to the adjacent muscles. At this place it divides into two branches: one goes along the outer-arm bone, between the long upper, and internal outer-arm muscles, to the back of the hand, and terminates in the bony muscles, the thumb, and three first fingers: the other passes between the short upper

muscle and head of the outer-arm, and is lost in the muscles of the fore-arm.

BACK NERVES.

There are twelve pair of back nerves. The *first* pair gives off a branch to the arm net-work. All the back nerves are distributed to the muscles of the back, ribs, jagged, chest, and abdominal muscles, and the diaphragm. The five lower pairs go to the cartilages of the ribs, and are called rib nerves.

LOIN NERVES.

The five pair of loin muscles are bestowed about the loins and muscles, and skin of the abdomen and loins, scrotum, ovaria, and diaphragm. The second, third and fifth pair unite and form the *hadener* or *pulley* nerve, which descends over the loin muscle into the pelvis, and passes through the shield hole to the pulley muscle, three-headed, comb, &c.

The third and fourth, with some branches of the second pair, form the leg nerve, which passes under Poupart's ligament, with the thigh artery, sends off branches to the adjacent parts, and descends in the direction of the tailor muscle, to the inner joint eminence of the thigh-bone, whence it accompanies the large visible vein of the leg, to the inner ancle, to be lost in the skin of the great toe.

The fifth pair are joined to the first pair of sacred nerves.

SACRED NERVES.

There are five pair of sacred nerves, all of which arise from the horse-tail, or termination of the spinal marrow; so called from their resemblance to the tail of a horse. The four first pair give off branches to the viscera within the pelvis, and are afterwards united to the last loin nerve, to form a large net-work, which gives

off the nerve of the hip-bone, the largest in the body. The hip nerve, immediately at its origin sends off branches to the bladder, straight gut, and parts of generation; proceeds from the cavity of the pelvis through the hip notch, between the lower protuberance of the hip-bone and great head of the thigh-bone, to the ham, where it is called the *ham-nerve*. In the ham, it divides into two branches one of which descends on the outer shin-bone and gives many branches to the muscles of the leg and back of the foot; the other penetrates the calf muscles to the inner ancle, passes through a notch in the heel-bone to the sole of the foot, where it divides into an internal and an external sole nerve, which supply the muscles and tendinous expansion of the foot and toes.

THE GREAT SYMPATHETIC NERVE.

This nerve arises in the cavity of the skull, from the union of a branch of the sixth with a recurrent branch of the fifth pair. It passes out of the skull through the head artery canal, and descends on the sides of the neck, back, and loin vertebræ, and sacred bone, in which course it is joined by filaments from all the spinal nerves forming small knots at their junctions.

In the neck it only forms three *neck knots*, from which arise the *heart nerves* and *lung net-works*, which send nerves to the heart and lungs. In the chest there arise five branches from the third, fifth, seventh, eighth, and ninth knots, which descend in the course of the vertebræ and pass through the diaphragm, where they unite on each side into one trunk, the *bowel nerve*, which soon unite together, and form the *great half moon knot*, from which nerves are given off to all the abdominal viscera, forming ten net-works which communicate with one another, and are named after the adjacent viscera, viz: the *stomach net-work*, near the belly artery, supplying the stomach; the *spleen, liver, the upper, middle, and lower mesenteric net-works*, two *kidney*, and two *spermatic net-works*.

PHYSIOLOGY OF THE FUNCTIONS OF THE NERVOUS SYSTEM.

Nerves are organs of our senses. Bodies applied to certain parts of our system produce changes in those parts, which changes are conveyed in an unknown manner to the brain, by means of the nerves only, and *sensation* is produced; so that sensation is a property peculiar to the nervous fibre; and hence, all sensible parts are supplied with nerves, although they cannot be detected by the eye.

The senses are distinguished into *internal* and *external*.

The *internal senses* are ideas which the brain, or mind, forms to itself, and may be produced from the external senses, or they may be excited spontaneously: such are, *memory, imagination, conscience, the passions of the mind, and reasoning*, by the superior excellence of which, man differs so eminently from the brute.

The *external senses* are smelling, seeing, hearing, tasting, and touching.

OF SMELLING.

Smelling is a sensation by which we perceive the odour of substances. The *organ* of smell is the nervous papillæ, or points of the smelling nerves, or first pair, which are distributed on every part of the pituitary or lining membrane of the nose.

OF SEEING.

Seeing is a sensation by which we perceive bodies around us, and their visible qualities. The *organ* of sight is the *retina*, an expansion of the optic nerves. The *object* of sight is, the rays of light which penetrate the bulb of the eye and stimulate the retina. *Light* is a subtile and solid material, which emanates from the sun or any luminous body with a very rapid motion, in right lines,

which are called *rays of light*, and penetrate to the retina in the following manner: the rays fall on the pellucid and convex cornæ of the eye, by whose density and convexity they are united into a focus, which passes the watery humor and pupil of the eye to be more condensed by the crystalline lens. The rays of light thus concentrated, penetrate the glassy humor, to stimulate the retina, upon which they impress the image of external objects to be represented to the mind through the medium of the optic nerves.

HEARING.

Hearing is a sensation by which we perceive the sound of any sonorous body.

Sound is a tremulous motion of the air, excited by striking any sonorous body. Sound is conveyed to an immense distance in the atmosphere, in straight lines, which are called sonorous rays. Soft bodies diminish or stifle sound; elastic ones increase it. The *organ* of hearing is the soft portion of the seventh pair of nerves, whose pulp is beatifully distributed in the porch, semi-circular canals, and shell of the ear. Hearing is performed in the following manner: the rays of sound emanating from a sonorous body, arrive at the ear, which, by its elasticity and peculiar formation, concentrates them, that they may pass along the external auditory or ear hole, to the membranes of the drum, which they cause to vibrate. The trembling drum conveys its vibrations to the hammer, which is in contact with it: the hammer communicates them to the anvil, the anvil to the circular bone, and the circular bone to the stirrup. The stirrup adhering to the oval window, causes it to vibrate: this then communicates its vibrations to the water contained in the porch and semi-circular canals, and causes very gentle motions of the nervous expansion contained therein, which transmit them to the sensorium commune, or seat of the mind, which is informed of the presence of sound, and judges of its difference. Deepness and sharpness of sound depend upon the number of vibrations given at the same time.

TASTING.

Tasting is a sensation by which we distinguish the qualities of bitter sweet, sour, &c., substances. The nervous papillæ, or fine points, of the tongue pair of nerves, which are distributed in the top and margins of the tongue, are the chief *organs* of taste. The parts subservient to taste, are: the *tongue*, which gives a convenient situation to the nervous papillæ, and by its extension motion, applies them to the substance to be tasted: the *skin* of the tongue, which moderates any excessive stimulus: the *saliva* and *mucus* of the mouth, which assist the organ of taste when it is necessary, that the substance should be dissolved in order to be tasted, and which also keep the nervous papillæ moist.

TOUCHING.

Touching is a sensation by which we distinguish the qualities of hardness, softness, heat, cold, &c., of substances, and by which we perceive any substance that comes in contact with the skin, particularly at the points of the fingers. Too great sensation is moderated by the skin, which also defends the papillæ from being dried by the skin.

DOCTRINE OF THE GLANDS.

A gland is a small round body, which serves for the secretion or alteration of a fluid. The varieties are, the simple *bag-like*, *globular*, *glomerate*, and *conglomerate*; they are also divided from the liquid they secrete, or change, into oily, mucus, lymphatic, tear, salival, bilious, milk, &c.

A *bag-like gland* consists of a hollow vascular membrane, having an excretory duct; as the oily and mucus glands.

A *globular gland* consists of a number of lymphatic vessels connected together by cellular membrane, and has no cavity, or excretory duct; as the lymphatic glands of the lymphatic vessels.

A *glomerate gland* is formed of a number of blood vessels; has no cavity, but is furnished with an excretory duct; as the tear and breast glands.

A *conglomerate gland*, is composed of many glomerate glands whose excretory ducts unite and form one large canal, or duct. The pancreas and salival glands, belong to this class.

The *excretory duct* of glands, is a thin canal, which goes out of the gland, and strains out, as it were, the secreted fluid, by the contractility of its coats.

The *nerves* and *vessels*, of glands are numerous, and come from the adjacent parts. Glands are connected with other parts by cellular membrane. They are larger in infants than in adults. Their use is, to secrete or change a fluid.

Glands of the Skin. The glands under the skin are oily and perforate the skin by their excretory ducts.

Glands in the Cavity of the skull. 1. Glands of the outer membrane of the brain: situated near the upper longitudinal canal of this membrane, in peculiar cavities in the forehead and side bones. 2. Glands of the net-work membrane, of the side ventricles of the brain. 3. The pituitary gland, placed in a folding of the outer brain membrane, in the pituitary cavities of the wedge bone. The funnel of the brain terminates in this gland.

Gland of the Eyes. 1. Small, numerous, oily glands, situated under the skin of the eyelids, near their margins. Their excretory ducts open on the edges of the lids. 2. The tear gland, glomerate, and situated above the outer angle of the orbit, in a peculiar depression of the forehead bone. This gland has six or eight excretory canals, which convey the tears, and open upon the inner surface of the upper eyelids. 3. The tear kernel, a small red prominence in the inner corner of the eye, between the edges of the eyelids. It consists of small oily glands, which secrete a filthy humor.

Glands of the Nostrils. The pituitary membrane, lining the nostrils and its canals, is every where furnished with mucus glands, which secrete the mucus of the nose.

Glands of the Ear.—The wax glands, situated under the skin of the external hearing canal, secrete the wax of the ears.

Glands of the Mouth.—The glands which secrete the spittle or saliva, are: 1. Two large conglomerate glands, situated under the ear, between the breast-like process of the temple bone, and corner of the lower jaw. The excretory duct of this gland opens into the mouth. 2. The jaw glands, which are conglomerate, and situated under the angles of the lower jaw. 3. The glands under the tongue. 4. The glands of the cheek, situated on the internal surface of the cheeks. 5. The lip glands, on the inner surface of the lips, under the common membrane of the mouth. 6. The glands of the grinders, on each side of the mouth, between the chewing and constricting muscles, and whose excretory ducts open near the last grinder.

External glands of the Neck.—1. The jugular glands are globular, and situated under the skin of the neck, about the external jugular vein: they are in general about twenty in number. 2. The under jaw glands, also globular, and situated in the fat under the jaw. 3. The neck glands, found under the skin in the fat about the neck. 4. The shield gland, a large gland, lying on the ring cartilage, windpipe, and horns of the shield cartilage.

Glands of the back cavity of the Mouth.—These are situated under the membrane which lines this cavity, and are mucus, and divided into palate, grape, top of the windpipe, tongue, and throat.

Glands of the Breast.—1. The breast, or milk glands, are situated under the fat of the breasts. Their excretory ducts are termed tubes, and run to the nipple where they open.

Glands of the Chest.—The wart, a large gland, peculiar to the foetus, and which disappears soon after birth; it is situated in the front folding or space of the partition membrane of the chest, under the upper part of the breast bone, above the membrane of the heart. Lymphatics are seen going from this gland to the chest canal. 2. Two large blackish throat glands, near the end of the windpipe, which secrete a blackish mucus. 3. The gullet glands,

found under the internal membrane of the food canal. 4. The back glands, situated upon the fourth or fifth vertebræ of the back, between them and the food canal.

Glands of the Abdomen.—The gastric glands, which are mucus or slimy, are situated under the outer membrane of the stomach. 2. The intestinal glands, also mucus situated under the inner membrane of the intestines, especially the large. 3. The mesenteric glands, situated here and there in the cellular membrane of the mesentery. The chyle from the intestines passes through these glands to the chest canal. 4. The liver glands which form the substance of the liver, and separate the bile into the small ducts, which at length terminate in the liver duct. 5. The gall bladder glands, which are slimy, and found under the internal membrane of the gall bladder, especially about its neck. 6. The pancreatic glands, which constitute the pancreas; a small duct arises from each gland, which unite to form the pancreatic duct. 7. The omentum or caul glands which are globular, and situated in the caul.

Glands of the Loins.—1. The upper kidney glands, in the fat membrane, one above each kidney. 2. The kidneys. (*See Doctrine of the Viscera.*) 3. The loin glands, globular, and situated about the beginning of the chest canal. 4. The flank glands, globular, founded about the beginning of the flank vessels. 5. The sacral, which are globate, and adhere to the sacred bone.

Glands of the Male organs of generation.—1. The odoriferous glands, which are oily and situated about the crown of the head. 2. The mucus glands of the urethra, situated under the internal membrane of the urethra. Their mouths open in the urethra. 3. Cowper's glands, are three large mucus glands two of which are situated before the prostrate gland, under the urinary accelerator, and the third more forward before the bulb of the urethra. 4. The *prostrate gland*, a very large, heart-like, firm gland, situated between the neck of the urinary bladder and bulb of the urethra. It secretes a milky fluid, which is sent into the urethra by ten or twelve ducts during coition.

Glands of the Female organs of generation.—1. The odoriferous glands of the lips and nymphæ, which are oily, and situated under the skin of those parts. 2. The odoriferous glands of the clitoris which are numerous, are situated about the base of the clitoris, and of the same nature as the former. 3. The mucus glands of the urethra, situated under the internal membrane of the urethra. 4. The mucus glands of the vagina or sheath, situated under its internal membrane.

Glands of the Extremities.—The glands in the groin, are globular, or lymphatic, and situated in great numbers in the cellular membrane of the groin region, and receive the lymphatic vessels from the glands penis and lower extremities. The armpit glands, are also globular, and situated in the cellular membrane of the armpit: they are also numerous, and receive the lymphatic vessels from the breasts and upper extremities.

Glands of the Joints.—The small fat-like masses, situated within the moveable joints. Their structure is not glandular, they are composed of fat. By these little masses the lubricating joint-water is separated from the blood.

PHYSIOLOGY OF SECRETION.

Secretion is a particular function in an animal body, by which a fluid is separated from the blood, different in its properties from the blood.

The *organs* which secrete the various humors are the glands.

The proximate or immediate cause of secretion is a specific action of the arteries of the glands; for every secretion is formed from the extremities of the arteries, (the secretion of bile is no exception to this law, for the gate vein takes upon itself the functions of an artery;) thus the mucus glands secrete mucus; the salival glands, saliva or spittle; the liver glands, bile, the kidneys, urine, &c.

The secreted fluids are the proper stimuli to the receptacles and ducts through which the secretion is to pass to its place of destination; so that the secretions move along the excretory ducts by means of the contractility of their coats and the assistance of the neighboring moving powers.

DOCTRINE OF THE VISCERA.

The body, divided externally into head, trunk, and extremities. Head, divided into face, and hairy part. *Hairy part*, into crown, fore part, hinder part, and sides. *Face*, into forehead, temples, nose, eyes, mouth, cheeks, chin and ears. *Trunk*, divided into neck, chest and abdomen. *Neck*, into front, and back part.—*Chest*, into front, back, and sides. *Abdomen*, into front, back, and side regions. Front region, subdivided into three regions; 1. The upper belly, which lies over the stomach, and whose sides are termed the hypochondriac region; 2. The navel region, surrounding the navel, and whose sides are called the flank; 3. The lower belly, which lies over the urinary bladder, and whose sides are called groins. The *pubes*, is the hairy part under the abdomen, between the groins. Under the pubes are the parts of generation—in men, the penis and scrotum—in women the lips and fissure. The space between the genitals and thighs, is called, between the thighs. *Extremities*, divided into upper and lower.—*Upper extremity*, into shoulder, arm, fore-arm, and hand. *Hand*, into wrist, hand and fingers. *Fingers*, into thumb, fore finger, middle finger, ring finger, and little finger. *Lower extremity*, divided into thigh, leg, and extremity of the foot. *Foot*, into instep, foot, and toes.

Internal division of the body into three cavities, viz: Cavities of the skull, chest, and abdomen.

COMMON INTEGUMENTS.

These are so called, because they are the common coverings, as it were, to the body; they consist of the scarf skin, the coloring mucus, true skin, and cellular membrane.

The *scarf skin*, is a thin pellucid insensible membrane, covering the external surface of the body. It is connected with the true skin, hairs, exhaling, and inhaling vessels. Its color is white. Use, to cover the sensible points of the nerves.

The *coloring mucus* is disposed in a net-like form, between the scarf skin and skin. Its colour is white, in white people, black, in negroes, copper coloured, in Indians, &c. Use, to cover the sensible points of the nerves, to connect the scarf skin, with the skin, and give the colour to the body.

The *true-skin*, a thick membrane between the colouring mucus and cellular membrane, covering the whole body. Substance, fibrous and full of vessels and nerves. Use, for the situation of the organ of touch, exhalation and absorption.

Physiology of perspiration.—Perspiration is a species of secretion by which the blood is freed from a quantity of oily fluid by the exhalent arteries of the skin. It is divided into *sensible* and *insensible perspiration*: the former is continually going on, by which means the surface of the body is kept smooth and moist, and may be detected by placing any part of skin near a looking-glass, which will become soiled. The latter is sweat, which is observed only occasionally.

The *Nails* are horny plates, situated in the extremities of the fingers and toes. Use, to defend the nervous papillæ from contusion.

Hairs are thin, elastic, dry, filaments, growing out from the skin. Color and situation, various. Called hair, on the head; eyebrows, above the eyes; eyelashes, on the edges of the eyelids; mustaches on the upper lip; beard, on the chin, &c.

The *cellular membrane* is formed of small membranous cells, which are sometimes distended with fat. Its situation is under the skin and in some soft parts. Use, to cover and defend the muscles; to unite the soft parts; and to render the muscular fibres flexible.

OF THE HEAD.

The parts which form the head, are divided into external and internal. The *external parts* are, the common integuments; hair; a tendinous expansion; three pair of muscles; the covering membrane; and the skull itself. The *internal parts* are, the outer membrane of the brain (*dura mater*;) the web membrane, between the outer and inner; the inner membrane (*pia mater*;) the brain; hinder brain; oblong marrow; nine pair of nerves; four arteries, and twenty-four vein canals.

Outer membrane—A thick membrane, which strongly adheres to the internal surface of the skull, especially about the sutures. Its processes are, the scythe process, which divides the two hemispheres of the brain; the partition which separates the brain from the hinder brain; and the partition separating the two lobes of the hinder brain. It is composed of two strong layers, adhering together by fibrous texture. Its arteries are, the front, middle and back. The veins are called venous canals; in number they are twenty-two, the principal of which are, the upper longitudinal, side and lower longitudinal; all of which evacuate their blood through the lacerated hole in the base of the skull, into the internal jugular veins. It has no nerves. Its use is, to form the internal lining of the skull, and to contain and defend the brain and internal parts from compression.

The *web membrane*, is very delicate and transparent; situated between the outer and inner membranes. It is very thin and filamentous, and apparently without vessels or nerves. Use, not known.

Inner Membrane.—Thin, and firmly grown to the convolutions of the brain, hinder brain, oblong marrow, and spinal marrow. It is composed almost wholly of vessels. Use, to distribute the vessels to, and contain the substance of, the brain.

Brain.—A great viscus in the cavity of the skull. Its shape is oval. It is larger in man, in proportion to his size, than in any other animal. Its substance, marrow-like; divided into two hemispheres, right and left. Each hemisphere is sub-divided on its lower surface into three *lobes*, the front, middle, and back. The principal cavities are, two side ventricles, in each of which are several eminences, and a loose vascular production of the inner membrane, called the choroid net-work; a *third* and *fourth ventricle*. The principal parts are, the *hard body*, seen when the hemispheres are separated from each other; the transparent portion, which divides the side ventricles; the arch; the finger-like processes; the foot; the channeled bodies, and chabers of the optic nerves which are formed in the side ventricles; great valve of the brain; front and back joining; four oval bodies, the nates and testes; the pine-apple gland, (so called from its shape: supposed by some to be the seat of the soul;) the pituitary, or mucus gland; the white eminence; and the legs of the brain: all of which can only be learnt upon the subject, either natural or artificial. Its arteries are the internal head, and the vertebral. Its veins return from the outer or back part of the brain, and evacuate themselves into the twenty-two venous canals of the outer membrane. Use, it is the organ of all the senses.

Hinder Brain.—A small brain situated in the lower and back part of the head. Divided into right and left lobe. Substance, similar to the brain. Its eminences are, two legs, a front and back worm-like process, and the tree of life. Its vessels and use, the same as the brain.

Oblong Marrow.—A marrow-like part lying upon the wedge process of the hinder bone, formed by the connexion of the legs of the brain and hinder brain. Its eminences are, the bridge,

pyramidal bodies, and olive-shaped bodies. Use, the same as the brain.

Spinal Marrow.—A continuation of the oblong marrow, which descends in the back bone cavity, from the great occipital hole to the third joint of the loins, in which course, it transmits between joints, thirty pair of nerves. Its termination is in various nerves, which form the horse-tail. Its membranes, the same as the brain. Its artery, the front spinal. Use, to emit the thirty pair of spinal nerves.

OF THE ACTION OF THE BRAIN, HINDER BRAIN, OBLONG MARROW,
AND SPINAL MARROW.

The most important functions of an animal body are those of the brain. In order to explain these accurately, it is necessary to mention a few experiments which have been made upon animals.

Upon dividing, compressing, or trying a nerve, the muscles to which the nerve goes, become paralytic. If the nerve, thus divided compressed, or tied, had any particular sensation, that sensation no longer exists; but upon untying or removing the compression, its peculiar sense returns.

If the brain, hinder brain, or oblong marrow, be irritated, dreadful convulsions take place all over the body.

If any part of the brain be compressed, that part of the body is deprived of motion which has nerves from the compressed part.

From these phenomena, it is evident that the cause of every sensation and motion in the animal body, arises from the brain and spinal marrow, and that from these parts it is conveyed to every sensible part, through the medium of the nerves. Hence, it follows, that the nerves are the organs by which the various sensations are produced. The manner, however, in which the nerves exercise sense and motion; how the will is conveyed from the brain to the different parts, and how, from the different parts, sensations are conveyed to the brain, remains yet, perhaps, involved in obscurity.

THE EYE.

The parts which form the eye, are divided into external and internal. The *external* parts are the eyebrows, eyelids, eyelashes, the tear gland, the little fleshy excrescence, between the eyelids in the inner angle; the tear points, two small openings on the nasal extremity of each eyelash; the tear canal, formed by the union of the ducts leading from the tear points, which meet and constitute it at the internal angle of the eye; the tear sac, a dilatation of the tear canal, and which ends in the nasal duct, a continuation of the same canal, which conveys the tears into the nose; the muscles of the eyelids; the muscles of the bulb of the eye, and the fat of the orbit.

The *bulb*, or ball of the eye, consists of eight membranes, two chambers, and three humors. The ball is covered on the fore part by an exquisite sensible and delicate membrane, which begins from the edge of the eyelash, and is reflected over the eye to the edge of the other eyelash. This membrane is the seat of inflammations of the eye, and is called the joining coat. *Membranes.* 1. The hard coat, which is white, and the outermost. 2. The enclosing membrane, which is very strong, and whose vessels run to the centre. 3. The retina, or fine net, which is innermost. 4. The spider's web; which includes the glassy humor. In the front part, are, 5. The transparent cornea, which is a part of the head coat. 6. The iris, a part of the enclosing membrane: it is of various colors; hence, white, black, and blue eyes, &c. 7. The grape, which is the back part of the iris; and, 8. The bag of the crystalline lens. The *chambers of the eye*, are distinguished into the front and back. The front is the space between the transparent cornea and the fore part of the iris; the back, is the space between the grape and bag of the crystalline lens. The *humors* are, the watery, the crystalline lens, and the glassy. The eyeball is connected, in front with the joining coat; behind, with the orbit, by means of muscles and the optic nerve. *Arteries*, the internal

orbital, the central, and the optic. The veins empty themselves into the external jugulars. *Nerves*, the optic, or first pair, and branches from the third, fourth, fifth, and sixth pair. Use, it is the organ of vision.

THE EAR.

The soft parts which form the ear, are divided into external and internal. The *external soft parts* are, the ear, in which are various prominences and canals; the outer hearing canal, and membranes of the drum. The *internal soft parts* are, the common bone membrane, which lines every part of the internal ear, and the Eustachian tube, which begins by a large opening in the back cavity of the mouth, and gradually diminishes as it passes along its bony canal into the ear. The arteries are, the internal and external; the veins empty into the external jugular. The nerves of the external ear, are, the branches of the seventh pair; those of the internal part are also branches of the seventh pair, but of the soft portion. Use, the organ of hearing.

THE NOSE.

A prominence of the face between the eyes and mouth. It is divided into root, back, top, and wings. The *soft parts* are, the skin, muscles, cartilages, bone membrane, and cartilage membrane. The soft parts of the nostrils, are, a pituitary, or mucus membrane, which lies in the internal surface of the nose, and all its cavities, contains the mucus glands, and has distributed on it the smelling nerves, and the bone membrane. Its arteries are branches of the internal jaw artery; the veins empty into the internal jugulars. Its nerves are, branches of the smelling, eye, and upper jaw. Use, for smelling, breathing, and speech.

CAVITY OF THE MOUTH.

The parts forming this cavity are external and internal. The *external* are, the lips, chin, and cheeks; which are composed of

common integuments, and the muscles of the upper and lower jaw. The arteries of the external part, are branches of the lower orbital, lower jaw, and face; the veins empty into the external jugular. Its nerves are from the fifth and seventh pair.

The *internal* parts of the mouth are, the palate, two tooth socket arches, the gums, tongue, cavity of the cheeks, and three pair of salival glands. Use, for chewing, speech, breathing, swallowing, sucking, and taste.

PHYSIOLOGY OF CHEWING.

Chewing is the grinding of food between the teeth, which is effected by the jaws, tongue, cheeks, and lips. The powers which move these parts are their various muscles, by which the lower jaw is pulled from the upper, and again brought to it, whilst the tongue perpetually puts the food between the teeth, and the cheeks and lips prevent it, when chewed, from falling out of the mouth. By this process, the food is divided, lacerated, and as it were, ground, and mixed with the saliva and mucus of the mouth, and the atmospherical air, and thus rendered fit to be swallowed and digested; so that chewing, or mastication, is in fact an incipient digestion.

TONGUE.

A mucus body, moveable in every direction, situated in the cavity of the mouth. Divided into base, body, sides, and top. It is connected with the tongue bone, bottom of the lower tongue cavity, and lower jaw. The *nervous points*, which are situated on top of the tongue, are pyramidal, or cone-shaped. Its substance is fleshy, covered with a scarf skin, coloring mucus, and true skin, and the cellular membrane. The tongue arteries are branches of the external head artery; and the veins empty themselves into the external jugulars. The nerves are from the fifth, eighth, and ninth pair. Its glands are mucus. Use, for speech, mastication, swallowing, suction, and taste.

OF THE NECK.

The parts which form the neck are divided into external and internal. The *external* parts are, the common integuments; the muscles of the neck; eight pair of neck nerves; two head arteries; two vertebral arteries; two external jugular veins; the internal jugular veins; the jugular glands; the shield gland; the eighth pair of nerves of the brain; and the great rib nerve. The *internal* parts are, the back cavity of the mouth, the bag at the top of the food canal; the food canal; top of the windpipe, and windpipe.

THE FAUCES, OR BACK CAVITY OF THE MOUTH.

The cavity behind the tongue and palate veil. The *soft parts* are, the common integuments and mucus glands. Arteries, branches of the external head. Nerves, from the fifth and eighth pair. Use, for swallowing, respiration, speech, and hearing.

TOP, OR FUNNEL OF THE FOOD CANAL.

A muscular bag, like a funnel, situated behind the top of the windpipe, adhering to the back cavity, and terminating in the food canal, or gullet. It is connected by means of muscles with the skull, vertebræ, and tongue bone. Use, to receive the masticated food and convey it into the food canal.

FOOD CANAL.

A membranous muscular tube, descending from the funnel to the stomach. Composed of three coats, viz. a common, muscular, and villous, or rough.

Its arteries are branches of the fountain; and its veins empty into the single vein. Its nerves are from the eighth pair and great rib. It is full of mucus glands. Use, for swallowing.

PHYSIOLOGY OF SWALLOWING.

Swallowing, or deglutition, is the conveying of the masticated food from the mouth into the fauces, and from the fauces through the food canal into the stomach. This is performed by the jaws shutting so as to prevent the food from falling out of the mouth; the tongue is then applied to the palate, by which the food lying upon the tongue is pressed into the back cavity, where it is received by the dilated funnel. The funnel is then irritated to contract, by which the food is expelled into the food canal, by the contraction of whose fibres it is conveyed into the stomach.

The funnel is dilated by its opening muscles, and by the root of the tongue, tongue bone, and top of the windpipe, being drawn forward and backward by their proper muscles.

The food is prevented, during the act of swallowing, from passing into the back opening of the nostrils, the Eustachian tube, and windpipe, by the hanging palate veil and grape being pressed against the former, and the opening of the windpipe is shut up by the cartilage at the root of the tongue.

When a fluid is to be drank, the head inclines backward, the same actions take place, and the fluid passes on each side of the valve-like cartilage. During swallowing, the food is covered with the mucus of the fauces and food canal.

TOP OF THE WINDPIPE.

A cartilaginous bag, situated behind the tongue, in the front part of the fauces. It is composed of five cartilages, various muscles; and an inner nervous membrane. The cartilages are, the valve cartilage at the root of the tongue; the shield cartilage, which is the largest; two funnel-like; and the ring cartilage, which is below the shield. A very sensible membrane covers their internal surface. Use, it is the organ of the voice, and serves also for breathing.

PHYSIOLOGY OF THE VOICE.

The voice is caused by the sound of the air propelled through the upper opening, or top of the windpipe. The shrillness or roughness depends on the diameter of this opening, its elasticity, mobility, lubricity, and the force with which the air is expelled; thus, when the diameter is increased, the voice is more base, and *vice versa*.

SPEECH.

Is the modification of the voice in the cavity of the mouth and nostrils.

VENTRILLOQUISM.

Consists, (it is supposed,) in the motion of the grape, valve cartilage, and fauces, by which the sounds are modulated without the lips, teeth, or palate. The mouth being nearly shut, and the voice resounding between the funnel of the windpipe and cavity of the nose, the sound is returned, as if emitted by some one at a distance. Large and expansive lungs, and a deep chest, are supposed to favor ventriloquism.

WINDPIPE.

A tube composed of cartilaginous rings, continued from the funnel, and situated before the gullet. It descends to the breast bone, and there divides into two branches, one to each lobe. These enter the substance of the lungs, and divide into innumerable branches, which terminate in air cells. The cartilaginous rings of the windpipe are not completely cartilaginous, but fleshy on the back part. The internal surface is lined with a very sensible membrane, continued from the funnel. Use, for respiration and speech.

OF THE CHEST.

The cavity situated between the neck and abdomen, is called the chest, or breast. The *external parts* are, the common integuments; the breasts; various muscles and bones. The *internal parts* are, the pleura, or lining membrane of the chest, lungs, heart, wart gland, food canal, chest canal, (thoracic duct;) the arch of the fountain, branches of the cave vein, the single vein; the eighth pair of nerves, and part of the great rib nerve.

THE BREASTS.

Two soft hemispheres adhering to the front and side regions of the chest, most conspicuous in females. On the middle of the outer surface is the *nipple*, round which is a colored circle. Their substance is, skin, fatty or cellular substance, and the milk glands and vessels. The arteries are, the external and internal breast; the veins empty themselves into the armpit and chest veins; the nerves are branches of the upper rib nerve. The lymphatics empty themselves into the armpit glands. Their use, to suckle new born infants.

PLEURA.

A membrane lining the internal surface of the chest, and covering its viscera. It forms a great process called the middle division of the chest, arising from its doubling, which separates the chest perpendicularly into two cavities. It is connected with the ribs, muscles, breast bone, bodies of the back joints, covering of the heart, and diaphragm. Substance, fibrous and vascular. Its use, is to divide the chest into two cavities, and render the surface moist by the vapor it exhales, and to give a membrane to the lungs and heart.

DIAPHRAGM, OR MIDRIF.

A fleshy and tendinous division, separating the cavity of the chest from the cavity of the abdomen. It adheres, on the fore part to the breast bone and ribs, and behind to the vertebræ. Its substance is tendinous in the centre, and fleshy on the edges. Its upper surface is covered by the pleura, and its lower by the lining membrane of the abdomen. Its apertures are, the *right hole*, through which the ascending cave vein passes to the right auricle of the heart; a *left hole*, through which the gullet and eighth pair of nerves pass into the cavity of the abdomen; and a *back opening*, which transmits the fountain into the abdomen, and the chest canal and single vein into the chest. Its arteries are from the descending fountain; its veins empty into the single vein. The diaphragmatic nerves arise from the spinal nerves of the neck. Use, for respiration, situation of the heart, expulsion of the fœces, and delivery.

LUNGS.

Two viscera, situated in the cavities of the chest, by which we breathe. Division, into right and left lung; the right has three *lobes*, the left only two. They are connected with the neck and heart. Substance, full of air cells, and vessels for air and blood, connected together by a spongy and cellular substance. It has an external membrane from the pleura. Its nerves are from the eighth pair and great rib. Lymphatics are to be seen on its external surface. Its glands are, large blackish glands about the windpipe. Use, for respiration, voice, and making of blood.

PHYSIOLOGY OF RESPIRATION.

Respiration, or breathing, consists of *inspiration*, or the ingress of air into the lungs, and *expiration*, or the egress of the air from the lungs.

During sleep, respiration is performed without our knowledge, and therefore termed *spontaneous*; but when it can be augmented or diminished according to our will, it is termed *voluntary*. The exciting cause of inspiration is the air rushing into the lungs and irritating its nerves, which irritation is, by consent of parts, communicated to the diaphragm and rib muscles, and compels them to contract. This contraction and the pressure of the elastic air, therefore, dilate the chest. The air being deprived of its stimulus, the rib muscles and diaphragm become relaxed, the cartilages of the ribs and abdominal muscles before expanded return to their former state; and thus the air is expelled from the lungs. The small branches of the lung artery form a beautiful net-work of vessels on the internal surface of the air cells. During *expiration*, the air vessels are collapsed; consequently, the blood vessels become crooked, and the blood is prevented from passing. In inspiration, then, the air cells being dilated, the crooked vessels are elongated and a free passage afforded to the blood: the very delicate coats of these vessels are also rendered so thin as to suffer a *chemical action* to take place between the air in the cells and the blood in the vessels. This constitutes the principal use of respiration, viz: the blood absorbing the *oxygen* from the atmospheric air, by which the nervous energy is increased and vital heat generated.

COVERING OF THE HEART.

A membranous bag surrounding the heart; adhering to the diaphragm, pleura, *breast bone*, cartilages of the ribs, gullet, descending fountain, and the veins and great arteries going to and from the heart. Use, to contain the heart, and to separate a fluid, which may lubricate and prevent it from growing to this membrane.

THE HEART.

A muscular viscus situated in the cavity of the above membrane, which serves for the motion of the blood. It is divided externally

into base, surfaces, and margins; internally into auricles and ventricles. Its situation is oblique, its lower point almost coming in contact with ribs on the left side. The cavities of the heart are called auricles and ventricles. The auricles are situated upon the base of the heart, and are so named from their resemblance to dog's ears. They are composed of numerous muscular fibres, which are very delicate, and are lined by an extremely sensible and contractile membrane. They surround the origin of the fountain and lung arteries, when distended, and are separated from each other by a partition.

The *right auricle* has opening into it, at its upper part, the upper cave vein, at its lower part, the lower cave vein, and at one side, the large crowning vein; so that its office is that of receiving the blood from every part of the body. Besides these *openings*, it has one much larger, communicating with the right ventricle, from the margin of which there hangs into the right ventricle, connected with the tendinous cord, a valve, called from its shape, the three pointed valve.

The *left auricle* is composed of the same materials as the right; it has opening into it the four lung veins; so that the blood of the lung artery passes through the lungs into the left auricle. Besides the openings of the four lung veins, the left auricle has a communication with the left ventricle, and from the margin of this opening there hangs into the left ventricle, a valve. This is also connected to the tendinous cord of the ventricle.

The ventricles are situated in the substance of the heart, and are divided from each other by a thick muscular division. The sides of the ventricles are very thick and composed of strong muscular fibres. In the ventricles are a number of fleshy cords, running in various directions, called columns, and many of them are connected with the valves of the auricular openings by tendinous cords. The ventricles are lined with a similar membrane to that which lines the auricles.

The *right ventricle* has a communication with the right auricle,

as before, mentioned, in order to receive its blood; it has also an opening into the lung artery, which arises from it, and through which organ the blood is expelled from the ventricle. At the origin of the artery three large valves are placed, called, from their shape, half-moon valves.

The *left ventricle* is much stronger than the right; besides the opening for the entrance of blood from the left auricle, it has also an opening through which it transmits its blood, and this is into the fountain, which arises from it, and has, like the lung artery, three half moon valves placed at its origin.

The vessels of the heart are, *common* and *proper*; the common, are, the fountain, lung artery, and veins, and the cave veins; the *proper* are, the crowning arteries and veins. The nerves are branches of the eighth pair and great rib. Use, it is the primary organ of the motion of the blood.

CIRCULATION OF THE BLOOD.

The blood is continually in motion, passing from the auricles of the heart into the ventricles; from the ventricles into all the arteries of the body, and from the arteries into the veins, which return it again to the auricles. The blood is brought from every part of the body to the heart by the two cave veins, which terminate in the right auricle. The right auricle, when distended with blood, contracts and empties itself into the right ventricle: the right ventricle then contracts, and propels the blood into the lung artery, the opening between the ventricle and auricle being shut by the three pointed valves. The lung artery conveys the blood by its numerous ramifications into the small branches of the air cells of the lungs, where it undergoes a change, and passes into the veins, which bring it, by four trunks, into the left auricle of the heart. It is prevented returning from the lung artery into the right ven-

tricle, by the half moon valves, which are placed at its origin.—The blood having thus passed through the lungs, and become of a florid, bright red color, distends the left auricle, which is then stimulated to contract, and pours the blood into the left ventricle. This ventricle next contracts and propels the blood through the fountain, to be conveyed by its branches to every part of the body. The valves at the auricular opening into the left ventricle, prevent the blood from returning when the ventricle contracts, into the auricle; and lest the blood should be prevented by any impediments from passing immediately along the fountain, the three half moon valves, placed at its origin, prevent its regurgitating into the ventricle. From the numerous arteries of the fountain the blood is conveyed into the veins, where it loses its florid color, and becomes darker, to be returned in the way above mentioned, to the right auricle. Thus the blood of the right auricle and ventricle, and of the lung arteries, is of a dark color; and that of the lung veins, left auricle, ventricle, and all the arteries, (except the lung,) of a bright red hue.

From what has been said, it is evident that the action of the heart consists in the alternate contraction and dilatation of its auricles and ventricles. The excessive sensibility of the membrane which lines the auricles and ventricles disposes them to contraction, which is effected by the irritation and stimulus of the blood, and by that of the distension of its cavities.

OF THE ABDOMEN.

A cavity situated between the chest and pelvis, and divided into several regions as has been already mentioned. The *external parts* are, the skin, five pair of abdominal muscles, and the lining membrane. The *internal parts*, or *viscera*, are, the caul, stomach, small, and large intestines, liver, gall-bladder, mesentery,

milk vessels, spleen, pancreas, kidneys, upper kidney glands, descending fountain, and ascending cave vein.

THE LINING MEMBRANE.

A membrane lining the internal surface of the abdomen, and covering all its viscera. It is connected, by means of a cellular membrane, with the diaphragm, abdominal muscles, vertebræ of the loins, bones of the pelvis, urinary bladder, womb, straight gut, and all the viscera of the abdomen. Use, to contain and strengthen the abdominal viscera, and to exhale a vapour to lubricate them.

THE CAUL. (*Omentum*.)

A fatty membrane, a production of the lining membrane, attached to the stomach, and lying on the anterior surface of the intestines. Divided, into *large* and *small* caul. The former hangs pendulous from the great curvature of the stomach. The small caul fills up the space between the small curvature of the stomach, liver, &c. Immediately behind the biliary ducts there is an opening which will admit the finger, called the Winslow-hole. The arteries are branches of the belly artery; the veins empty into the gate vein. Use, to lubricate the intestines, keep them warm, and to preserve them from concretion.

STOMACH.

A membranous receptacle, which receives the undigested food from the gullet; situated in the upper belly region. Divided, when empty, into a front and back surface; a great and little curvature; upper orifice, and lower orifice. It is connected with the gullet, duodenum, or second stomach, caul, and pancreas; composed of

three membranes, or coats, viz: a common, muscular, and villous, coat. Arteries, branches of the belly artery; veins, empty into the gate vein; nerves, branches of the eight pair. The absorbents of the small curvatures terminate in the chest duct, where the belly artery is given off, and those passing along the great curvature join with the absorbents of the spleen. Its glands are mucus, and under the internal coat. Use, to receive the food and to retain, mix, digest, and expel it into the second stomach.

DIGESTION.

Digestion, or chymification, is the change which food undergoes in the stomach, by which it is converted into a pulpy mass, called chyme.

The circumstances necessary to effect a healthy digestion of food, are—

First. A certain degree of heat in the stomach.

Second. A free mixture of saliva with the food in the mouth.

Third. A certain quantity of healthy gastric juice.

Fourth. The natural peristaltic, or worm like motion of the stomach and intestines.

Fifth. The pressure of the contraction and relaxation of the abdominal muscles and diaphragm. From these circumstances, the particles of food are softened, dissolved, diluted, and intimately mixed into a soft pap, called chyme, which passes through the lower orifice of the stomach into the second stomach.

INTESTINES.

The membranous tube, six times longer than the body, in the cavity of the abdomen, variously contorted from the lower orifice of the stomach to the anus, is so called. They are divided into small and large. The *small* are, the second stomach, which begins at the lower orifice of the stomach, and is reflected over the

spine, under the lining membrane. It is about twelve finger's breadth in length, and has near its middle an oblique perforation, which is the common opening to the pancreatic duct, and the biliary ducts. The *empty*, composes the second portion, and the *twisted*, the remainder, of the small intestines. They always hang from the mesentary into the cavity of the pelvis. There is no alteration of structure in any part of the small intestines; the termination of the one and the beginning of the other is imaginary.

The *empty* part constitutes the first half from the second stomach, the other half is the *twisted* part. The small intestines have internally a number of annular folds, which augment the surface for the situation of the milk and other vessel. They are peculiar to the small intestines.

The *large* intestines are divided into the *blind gut*, *colon*, and *straight gut*, or *rectum*. The *blind gut* lies upon the right hip over the internal flank muscle, to which it is attached by cellular membrane: it is a large blind sac, open at one end only; the small intestine opens obliquely into it, in such a manner as to form a valve, to impede the return of the fœces; and nearly opposite to this valve there arises from the blind gut a small worm-like canal, imperforate at its extremity, called the *appendix of the blind gut*. The intestine is now called *colon*: it ascends towards the liver, and is called the ascending portion of the colon, and having reached the liver, forms a transverse arch across to the other side. The colon then descends into the pelvis, where the gut is termed the *rectum*, or *straight gut*, which terminates in the anus.

The large intestines are lobulated, have sometimes little fat portions adhering to them, and also three bands upon their external surface, lengthwise. The intestines are composed of three membranes, or coats; one common, a muscular, and the third villous, or shaggy. They are connected with the mesentery, kidneys, point bone, and urinary bladder; and in women with the vagina. Their arteries are branches of the upper and lower mesenteric, duodenal, and internal pile arteries; veins run into the mesenteric,

Their nerves are productions of the eighth pair, and rib nerves. *Milk vessels.* These arise from the small intestines, and run into the mesenteric glands. Glands, mucus, and under the villous coat. Use, to receive the chyme, and retain it for a time; to mix it with the intestinal juice and bile; to separate and propel the chyle into the milk vessels; and to eliminate the fœces.

CHYLIFICATION.

This is the change of the chyme in the small intestines into chyle. The chyme in the second stomach is mixed with the pancreatic juice, the bile, and intestinal juice; from which mixture, effected by the continual peristaltic motion of the intestines, a milk-like fluid is separated, which is termed chyle, and is absorbed by the hanging mouths of the milk vessels, and conveyed through the mesentery into the chest duct, to be sent into and mixed with the blood, to form new blood.

Chylification is performed quicker than chymification, and both are effected within three hours.

The excrementitious particles of the food, called the fœces, are propelled into the blind gut, through the colon, where they acquire a peculiar smell, and thence into the rectum, to be expelled.

EXPULSION OF THE FŒCES.

The irritation of the fœces in the rectum induces it to contract the constrictor muscle relaxes, and the fœces are protruded through the aperture of the anus, by the pressure of the abdominal muscles, and the anus closed again by the contraction of the constrictor and levator muscles.

MESENTERY.

A membranous duplicature, formed of a production of the lining membrane, to which the intestines adhere. It is connected with

the loin vertebræ. Its arteries, the upper and lower mesenteric, and branches of the descending fountain; its veins empty into the gate vein. Nerves, branches of the eighth pair, and rib. The glands, which are situated in the mesentery, are called mesenteric glands. The milk vessels proceed to the glands, and from them to the chest duct. Use, to strengthen the intestines and afford a situation to the milk vessels, glands, and nerves, blood-vessels, &c. of the intestines.

LIVER.

The largest of the abdominal viscera, placed in the right hypochondriac region, and somewhat in the upper belly. Division, into three lobes: the great, small, and a less one. It is connected with the diaphragm by means of the suspensory and other ligaments. Its substance, vascular, full of vessels. The glands which compose the substance of the liver, are called bilious glands. The *excretory ducts* of the glands, are termed bilious pores: they arise from the bilious glands of the liver, form larger trunks, which converge together, and constitute a common canal, the *liver canal* which unites with the gall duct, and form the biliary duct. Use, to secrete bile.

GALL BLADDER.

An oblong, membranous bag, situated under the liver, in the right hypochondrium. Divided, into bottom, body, and neck, which terminates in the gall duct. The *gall ducts* arises from the gall bladder, proceeds to the duodenum and unites with the *liver duct*, to form the *biliary duct*, which perforates the duodenum, and conveys the bile into the intestines. The gall bladder is composed of three membranes, a common, fibrous, and villous. Its arteries, branches of the liver. Its veins empty themselves into the gate vein. Absorbents, very numerous. Use, to retain the gall, which regurgitates from the liver duct, there to become thicker, more bitter and acrid.

SPLEEN.

A spongy viscus, situated in the left hypochondrium, near the body of the stomach, under the ribs. Its figure is oval. It is connected with the caul, diaphragm, pancreas, and colon. The splenic artery is a branch of the belly artery; the veins empty into the gate vein. Its absorbents are very numerous. Its use is not certainly known.

PANCREAS.

A glandular body of a long figure, compared to a dog's tongue, situated under the stomach. It is composed of innumerable small glands, the excretory ducts of which unite, and form the *pancreatic duct*. This duct perforates the duodenum with the biliary duct, and conveys its secretion into the intestines. Use, to secrete a humour similiary to saliva, and carry it into the duodenum.

THE MILK VESSELS.

The absorbing vessels of the mesentery, are so termed, because they convey the chyle, or milk-like fluid, from the intestines into the chest duct. They originate from the surface of the duodenum, or second stomach, the empty, and the twisted portion of the intestines; and terminate in the chest duct, or trunk of the absorbents, which runs near the fountain on the spine, and empties its contents into the jugular vein.

As they run through the mesentery they pass through a number of glands, in which the chyle is altered, and proceed to their trunk. Use, to carry the chyle from the intestines into the blood.

KIDNEYS.

Two viscera, which secrete the urine, situated behind the sac of the lining membrane, near the bodies of the upper loin vertebræ.

Their substance is of three kinds: bark-like, tubular, and point-like. Its coverings are a fat membrane, and a proper membrane. The kidney arteries, or emulgents, are branches of the descending fountain; the veins empty themselves into the lower cave vein. The nerves of the kidneys are branches of the eighth pair and rib. The excretory ducts of the kidneys are called *ureters*, canals which convey the urine from the kidneys into the bladder. Use, to secrete urine.

EXCRETION OF THE URINE.

The urine is separated from the blood by the extremities of the kidney arteries, which open to the substance of the kidney into the urinary tubes, from whence it is received into the pelvis of the kidney, and passes along the ureter into the urinary bladder, drop by drop, where it usually remains a few hours, in consequence of the constrictor of the neck of the bladder being contracted. It is prevented returning into the ureters by their entrance being oblique and valve-like. The urine having remained a few hours, excites a desire to void it, by which stimulus the constrictor becomes relaxed, the muscular structure of the bladder contracts, and by the assistance of the abdominal muscles, and the accelerators, the urine is propelled along the urethra. The *upper kidney glands*, are two triangular flat bodies, situated above each kidney.

OF THE PELVIS.

The pelvis, or basin, is a cavity below the abdomen, and under the pubes, containing the urinary bladder, straight-gut, and organs of generation.

URINARY BLADDER.

A membranous sac under the lining membrane, in the cavity of the pelvis. It is situated, in men, between the pubes and rectum; in women, between the pubes and womb. It is divided into bottom,

body, and neck; and composed of three coats, like the intestines. Its arteries are branches of the flank and pile arteries: veins empty into the flank veins. Nerves, branches of the rib and sacred nerves. Use, to receive, retain, and expel the urine.

DOCTRINE OF THE FLUIDS.

The fluids of the body are divided into *crude*, as the chyle; *sanguineous*, as the blood; *lymphatic*, as the lymph of the lymphatic vessels, *secreted*, or those separated from the blood; and *excrementitious*, as urine, fæces, &c.

The secreted fluids are subdivided into *milky*, as the juice of the prostate gland; *watery*, as the humor of the eye; *mucus*, as the mucus of the nostrils; *albuminous*, as the serum of the blood; *oily*, as the oil of the fat membrane; and *bilious*, as the bile.

Fluids are also divided, from their motion, into *circulatory*, which continually circulate in the vessels; the *tardy*, which circulate with slow motion, as the semen, oil of the fat membrane, &c.; *stagnant*, which remain for a certain time in any receptacle, as bile in the gall bladder, &c.

FLUIDS COMMON TO THE WHOLE BODY.

THE BLOOD.

A red fluid, which circulates in the cavities of the heart, arteries, and veins. Color: in the arteries, of a *florid* hue; in the veins, *darker*, except in the lung veins, in which it is of a *lighter* cast. Blood, exposed to the atmosphere, spontaneously separates by degrees into two parts, viz. the *serum*, a yellow and somewhat

greenish fluid; and a *cake*, called *crassamentum*, which resembles a red mass swimming like an island in the serum. Use, to stimulate the cavities of the heart and vessels to contraction; to generate the heat of the body, and propagate it to every part; to nourish every part; and to supply all the secretions, they being all separated from the blood.

THE LYMPH OF THE LYMPHATIC VESSELS.

A tasteless, crystalline liquid, contained in the lymphatic vessels. It is absorbed from the surface; cellular membrane; viscera; and cavities of the viscera of the whole body; and it is conveyed into the chest duct. Use, to retain the superfluous nutritious fluid, the vapors of cavities, and substances applied to the skin, and to the chest duct.

THE VAPOR OF THE SHEATHS OF THE NERVES.

The watery vapor contained in the sheath, and between the fibres of the nerves. Use, to moisten the nervous fibres.

FLUIDS PROPER TO EACH PART.

IN THE CAVITY OF THE SKULL.

The vapor in the ventricles of the Brain.—A thin vapor contained in the cavity of the ventricles of the brain, and secreted by the exhaling arteries of the net-work of the side ventricles. Use, to prevent the concretion of the ventricles, and keep the brain moist.

IN THE CAVITY OF THE NOSTRILS.

The mucus of the Nostrils.—Secreted by the mucus glands of the pituitary membrane, lining the partition and shell of the nostrils.

Use, to preserve the nervous points of the smelling nerves moist, and to moderate excessive sensibility.

IN THE CAVITY OF THE MOUTH.

The Saliva.—A fluid secreted by the salivary glands into the mouth. The secretory organ is composed of *salival, under jaw,* and *under tongue* glands. Use, to augment the taste of the food; to mix with, dissolve, and resolve the food into its principles; and to moderate thirst.

IN THE CAVITY OF THE FAUCES.

The mucus of the Fauces.—Secreted by the mucus glands of the throat, &c. Use, to lubricate the top of the throat.

IN THE EYES.

The watery humor of the eye.—The very limpid water which fills the front and back chambers of the eye. Secreted by the floating vessels of the eyelid, and exhalant vessels of the iris.—Use, to distend the transparent cornea; retain the crystalline lens and vitreous humor in their places; and to transmit the focus of the rays of light to the crystalline lens.

The crystalline lens.—A clear, cellular body, distended by a very limpid, watery fluid, enclosed in a membranous bag, and situated in a depression in the front surface of the vitreous humor. Use, to transmit and refract the focus of the rays of light to the vitreous humor.

The vitreous humor.—The glassy substance which fills the whole bulb of the eye behind the crystalline lens; composed of small cells, distended with a limpid water. Use, to expand the bulb, and transmit and moderately augment the focus of the rays of light from the crystalline lens to the retina.

The water in the bag of the crystalline lens.—Secreted by the transparent branches of the artery of the crystalline lens. Use, to prevent the concretion of the crystalline lens with its bag.

The color of the Iris.—The colored mucus which covers the front and back surface of the iris. Use, to reflect the rays of light.

The color of the enclosing membrane.—The black or brownish mucus which covers the front surface of the enclosing membrane, and the interior of the eyelash.

The Tears.—A limpid fluid secreted by the tear gland, and flowing on the surface of the eye. Use, to moisten the surface of the eye and the eyelids.

The unctuous humor.—Secreted by the oily glands, and lubricating the fine cartilaginous rim of the eyelids.

IN THE CAVITY OF THE EARS.

The wax of the Ears.—The soft, bitter wax, secreted by the wax glands of the external auditory passage. Use, to lubricate the sensible membrane of that canal, and to prevent insects from entering.

The water of the labyrinth.—An insipid water contained in the cavity of the drum. Use, to preserve the nervous fibrils of the ear nerve soft and moist, and to moderate the tremors of sounds.

IN THE NECK.

The juice of the shield gland.—Of a yellowish, white color, especially in infants. Use, not known.

The mucus of the gullet.—Secreted by the mucus glands, situated in the cellular membrane. Use, to lubricate the cavity of the gullet, and prevent the concretion of its sides.

IN THE CAVITY OF THE CHEST.

The mucus lining the internal surface of the windpipe, its branches, and the lung vessels. Secreted by the mucus glands situated

under the internal membrane of those parts. Use, to prevent the surface of the windpipe, branches, and lung vessels from becoming dry by the continual passing of the air.

The vapor in the cavity of the chest.—A vapor which exhales from the exhaling vessels of the pleura, of the lungs and the ribs, into the chest. Use, to preserve the pleura soft, moist, and flexible; and to defend and prevent it from friction of, and concretion with, the lungs.

Vapor of the heart membrane.—Secreted by the arterious exhaling vessels which open upon the external surface of the heart, and internal of the membrane. Use, to prevent the concretion of the heart with the pleura; to diminish friction, and to preserve the parts soft.

The juice of the wart gland.—A milky juice secreted by the arteries opening into the cells of this gland. Use, not known.

IN THE BREASTS.

The milk of the breasts.—A white, sweetish fluid, secreted by the glandular fabric of the breasts of women. Use, to be aliment to new born children.

IN THE ABDOMEN.

The gastric juice.—A limpid colorless fluid, secreted by the exhaling vessels of the very numerous arteries which bedew every part of the stomach. Use, to digest the food.

The pancreatic juice.—The limpid juices secreted by this gland, and conveyed through its excretory duct into the duodenum. Use, to assist in the formation of chyle.

Bile.—A yellowish green bitter juice, secreted by the glandular substance of the liver, and conveyed by the biliary ducts, in part, into the duodenum, and in part into the gall bladder. Use, to extricate the chyle from the digested mass of food; to stimulate the intestines; and to prevent the abundance of mucus and acidity in the first passages.

Chyle.—A white fluid, separated from the food in the first passages, and observed some hours after eating in the milk vessels of the mesentery, and in the chest duct. Use, to form the blood.

The intestinal juice.—A limpid liquor, secreted by the exhaling arteries, in the whole course of the small and large intestines.—Use, to assist in digestion; and to cleanse and moisten the intestines.

The mucus of the first passages.—Secreted by the mucus glands situated under the rough coat of the first passages. Use, to lubricate that canal.

The vapor in the cavity of the Abdomen.—A watery vapor, secreted by the exhaling arteries of the lining membrane. Use, to preserve moist and prevent concretion of the abdominal viscera.

Urine.—A saline liquid, of a straw color, secreted in the kidneys, and dropping down from them by drops through the ureters, into the bladder. Use, to liberate the body from superfluous water.

The mucus of the bladder.—Secreted by the mucus glands situated under the innermost membrane. Use, to lubricate and defend the very sensible surface of the urethra against the acridness of the urine.

IN THE JOINTS.

The lubricating liquid.—A unctuous fluid, secreted by the internal membrane of the cap ligaments surrounding the joints. Use, to lubricate the cartilaginous surfaces of the articulating bones, and facilitate their motions.

Juice of the mucus bags.—An unctuous juice, secreted by the vessels of the internal membrane of the mucus bags. Use, to lubricate the tendons for motion.

IN THE BONES.

The marrow of the bones.—The oily substance secreted by the arteries of the internal bone membrane, and contained in the marrow cavities of the long bones, and spongy substance of others.

FLUIDS OF THE COMMON INTEGUMENTS.

The coloring mucus.—The mucus situated between the skin and scarf skin of the whole body, and secreted by the arterious vessels of the skin. Use, to glue the scarf skin to the skin; to moderate the sense of touch; to moisten the nervous points; and give the external color to the body; hence, it is *white* in Europeans, black in Ethiopians, &c.

The oil of the fat membrane.—Secreted by the arteries of the cellular membrane. Use, to facilitate muscular motion.

Sweat.—The watery perspirable matter excreted through the exhaling arteries of the skin. Use, to keep the skin moist.

DISEASES.

INTRODUCTION.

The knowledge of disease does not depend so much on scientific principles, as many imagine. It is chiefly the result of experience and observation. By attending the sick, and carefully observing the various occurrences in diseases, a great degree of accuracy may be acquired, both in distinguishing their symptoms and in the application of medicines. Hence, sensible nurses, and other persons who wait upon the sick, often discover a disease sooner than those who have been bred to physic. We do not, however, mean to insinuate that a medical education is of no use; it is doubtless of the greatest importance; but it can never supply the place of observation and experience.

Every disease may be considered an assemblage of symptoms, and must be distinguished by those which are most obvious and permanent. But by a due attention to these, the investigation of diseases will be found to be less difficult than is generally imagined. A proper attention to the patient's age, sex, temper of mind, constitution, manner of life, and other circumstances, will greatly assist, both in the investigation and cure of diseases.

In childhood the fibers are soft and lax, the nerves extremely irritable; in old age the fibers are rigid, the nerves insensible, and many of the extreme vessels obliterated. These, and other peculiarities render the diseases of the young and aged, very differ-

ent, and of course, they require very different treatment. Females are liable to many diseases which do not afflict the other sex.— Their nervous system is more irritable; they are less able to bear large evacuations, and much more caution is required in administering to them stimulating medicines.

Particular constitutions not only dispose persons to peculiar diseases, but likewise render it necessary to treat those diseases in a peculiar manner. A delicate person, with weak nerves, who lives mostly within doors, must not be treated precisely in the same manner as one that is hardy and robust, and who is much exposed to the open air.

The temper of mind ought to be equally attended to in diseases. Fear, anxiety, and fretfulness, all occasion and aggravate diseases. In vain do we apply medicines to the body to remove maladies which proceed from the mind. When that is affected, the best medicine is to soothe the passions, divert the attention, and keep the person as easy as possible and as cheerful as circumstances will admit.

Notice should be taken of the climate. Does the patient live in the city or country? in a high, or marshy situation? is he temperate, or not? what is his occupation? It would be madness to treat, even under the same disease, the enervated, shop-keeping citizen, the same as you would the hardy happy rustic.

We should inquire, further, whether the disease be constitutional or accidental? whether it has been of long or short duration? whether it proceeds from error in diet or manner of life?— The state of the patient's body should be inquired into; of the evacuations, &c., and likewise whether he can perform with ease all the vital and animal functions, as breathing, digestion, &c.

In the cure of diseases much may be done by diet alone. Many patients think the more drugs they swallow, the better they will be. This makes the people trust to drugs and neglect their own endeavors; besides it discourages all attempts to relieve the sick when medicines cannot be obtained. Every disease weakens the

digestive powers. The diet should be light and easy of digestion. Exercise in many cases may be considered as medicine. Sailing, or riding on horseback, will be of great service in consumption, scrofula, and nervous affections. It sometimes effects a cure without the help of medicines, and should be recommended by every physician, especially to consumptive patients.

Few things are of more importance than cleanliness; many diseases may be cured by cleanliness alone, most may be mitigated, and in all of them it is highly necessary, both for the patient and attendants.

Medicines are useful in their places, as mere handmaids of nature, and when administered with prudence may do much good; but when they are put in place of every thing else, or administered at random, they must do mischief.

In inflammatory cases, as fevers, pleurisies, &c. the food should be light, and drink diluent and mucilaginous, the quantity to be regulated by the patient's inclination, after an inflammatory fever has passed its crisis and a craving appetite commences, it may be indulged in more freely, by nourishing food and in larger quantities, always keeping in mind, to take a little and oftener.

In fevers of a slow nervous kind, or agues, or in cases of extreme debility and wasting away of the flesh, where there are no symptoms of inflammation, nourishing diet, and cordials, and stimulating drinks are indispensable to a cure. Nor is a proper attention to diet of less importance in cronic, than in accute diseases. Persons afflicted with low spirits, wind, weak nerves, thin watery fluid, hypochondrical affections, generally find more benefit from solid food, chalybeate waters, and generous liquors, than from all the carmineative or other medicines that can be given to them.

In consumptions, when the humors are vitiated and the stomach so much weakened as to be unable to digest the solid fibers of animals, or even to assimilate the juices of vegetables, a diet consisting of milk, will not only support the patient, but will often cure the disease when every other remedy fails. Nor is the attention

to other things of less importance. The strange infatuation which induces some people to shut up the sick from all communication with the external air, has done great mischief; not only in fevers, but in many other diseases, the patient will receive more benefit from having the fresh air prudently admitted into the chamber, than from all the medicines which can be given to the patient.

Many other observations might be made, were it necessary, but I will conclude with the single remark, that a competent physician, who assumes the responsibility of the lives of men, should be possessed of a sound mind, discriminating judgment, firmness of nerve and purpose, independence, and above all patience, to which should be added an intimate acquaintance with the action of the human system, the situation of the parts, their functions, their morbid and healthy appearances—regulated and governed as the whole is, by that principle in nature, which is constantly exerted to the preservation of the human frame, and without which it could not exist an instant. The whole duty, therefore, of a physician, is to follow the indications of nature, and aid her efforts to throw off disease, whether by perspiration, eruptions, expectoration, diarrhœa or increased urinary discharge, or otherwise.

I cannot forbear one more remark: I have never yet been able to discover the necessity of connecting the study of the dead languages with that of physic. Is not the English language sufficiently comprehensive to explain every term connected with the science? Why then should a student throw away years of his life in the acquisition of a language quite useless, and charge his memory with a host of uncouth medical terms, to the exclusion, perhaps, of what is really valuable. It can only confuse and confound that, which rightly understood, is simple: or what is more dangerous, serve as a cloak for ignorance, when the common language and common sense of people would detect and expose them to the disgust of an injured community.

INTERMITTENT FEVERS AND AGUES.

REMARKS.

Never bleed in a fever of any description unless inflammation and congestion of the blood upon the brain are threatened. It is against the plainest dictates of common sense. The Yankee house-wife, when she finds the brine of her pork-barrel becoming rusty, does not draw off one gallon and pronounce what remains pure and sweet; no, she would think such a proposition came from a fool. Her common sense, however, teaches her to place that brine over a fire, and by the action of a gentle heat cause the impurities to arise and separate: It causes it to arise to the surface, when she readily skims them off, leaving the brine pure and again fit for use. Just so with the animal blood. I presume drawing off the tenth, eighth, or even the fourth part of a man's blood, does not change the quality of what remains; it is only a foolish waste of the capital of life.

With the blood as with the brine, a gentle heat is required to separate the noxious impurities, and in the form that heat is had in fever. I do not want to be understood, as recommending the Steam Bath or cyanne pepper; but simple medicines to assist in promoting perspiration is what I recommend to all. If the patient can be got into a perspiration it will help greatly in subduing disease, and sometimes will prevent a further ravage of fever; and in all cases I would recommend the black snake root tea, as an antidote in intermittent fevers or ague. Take it as constant drink in time of chills. This root will be recommended in its proper place again.

An intermitting fever, is one that returns after the patient has been wholly free from it for one, two, or more days, and then returns with fresh severity.

Causes.—Coldness (from want of oxygen,) and feebleness of the arterial blood, occasioning a quicker and stronger contraction

of the heart, an obstruction or unequal distribution of the vital heat, a predominant acrid and cold phlegm in the first passages—universal debility. These may be produced by whatever relaxes the solids, diminishes the perspiration, or obstructs the circulation in the small vessels; such as exposure to the vapors arising from stagnant waters after fatigue, or any thing which debilitates, such as poor food, want of rest, &c.

The *Paroxysm of an Intermittent* consists of three successive stages, viz:

HOT, COLD, AND SWEATING STAGE.

Symptoms.—It begins with the cold stage: commencing with cold, sluggishness, shivering sensation of lassitude, quaking, paleness of the extremities, difficult respiration, anxiety about the heart, nausea, sometimes vomiting, pain in the back, loins and limbs, the pulse quick and small, the urine thin and crude.

Hot stage.—After shaking follows intense heat, flushes, soreness of the flesh, acute sensibility, pain in the head and back, constant flying pains over the whole body, pulse quick, strong and hard, white tongue, great thirst, scanty high colored urine, costiveness, delirium, &c.

Sweating stage.—At length the patient is relieved from pain, and a moisture appears on the face, and from thence it proceeds downwards to the lower extremities, the fever abates, the pulse becomes slow, full and free, the bowels move, the breathing is free, and all the functions are restored to their natural standard.

But after an interval of twenty-four or forty-eight hours the unwelcome visiter returns again, to torment the body with its inquisitorial racks, fires and sweats. Hence you see, that what distinguishes intermittent from all other fevers is, there is a time that the patient is free from cold, fever or sweat, his body feels perfectly free.

Favorable symptoms.—When the paroxysms are short, regular and go off clear.

Unfavorable symptoms.—When the paroxysms are long and violent, attended with delirium, or other diseases appear with it, or when convulsions, stupor, hicup, double vision, prostration of strength, vertigo or black tongue appears, then is a time to be alarmed for the safety of the patient—then is a time to use all means that you are master of, and stop further progress, if possible. But never try to break ague fits by giving medicines that will increase fevers, or run the patient into other complaints.—Those who do so are not worthy the name of physician.

TREATMENT.

During the cold stage apply artificial heat; put the feet in warm water or warm bath, warm drinks, cordials, hartshorn in pene-royal or hyssop, and black snake-root teas, and take as constant drink before the chill; and during its rage the patient must drink a tea, made of colts foot, snake-root, angelica and life root.

PREPARATION.

Take 3 parts of life root; 1 of coltsfoot, snake-root; 1 of angelica; mix all and make into a tea, and use for constant drink during the chill.

But when the fever come on, the patient must drink a tea made of black snake-root, life root, and wild turnip.

COMPOUND.

Take 2 parts liferoot; 2 parts of snake-root, and one of wild-turnip; make into a tea, use for constant drink during the fever. Should stupor come on during the fever, apply mustard drafts to the feet; and some times before the fit comes on, an emetic will destroy the ague. But if the patient is very low, you must omit the emetic for a time, until the patient can bear it.

After the patient's fever abates, then comes the sweating stage; if the patient sweats profusely you must make a tea of oxeeye, daisy, and give as constant drink during the sweating stage.

REMARKS ON THE CURE OF AGUES, &c.

At the intermission, or when the patient is free from fever, cold or sweating, you must prepare bitters for the patient in the following manner:

Take 1 oz. of boxwood bark; 1 oz. of black alder bark; 1 oz. of golden seal; $\frac{1}{2}$ oz. of blood root; make fine and compound, and add to this one quart of water and one quart of proof brandy—take this when you are free from the paroxysms; say take a wine glass half full, three times a day. But if you preceive that it raises a fever, you must omit this, and make pills in the following manner for the patient:

PILLS.

Take 4 lbs. of thoroughwort green; 4 oz. of golden seal; 4 oz. of ipicac, American; put all into one gallon of water and boil down to one quart, then strain and boil down to 2 gills, then take 1 oz. of mandrake made fine, and mix with the extract to pill; roll them in skunk cabbage, and let the patient take for a dose from 2 to 3, night and morning, or till they physic thoroughly.

The author has given the thoroughwort pills in many cases, and effected a cure, without the aid of other medicines. It is one of the best antidotes in agues and fever, that I ever discovered. It is worthy the attention of every person that is afflicted with this loathsome complaint. I recommend it to the attention of all who profess the healing art.

There is an anomalous state of diseases which attends northern men who have been to the far west, and there worn out an ague and fever, as they tell us, without the use of medicine. They

say, that some six or eight months ago, they had an ague and fever, and that the ague became less and less, until at last they missed it altogether; yet, that an inward fever has troubled them ever since.

They have now a dead white or yellow countenance, swelled feet, tumid bowels, a crude or bloody lax, tumors commonly called ague cakes in the sides, with increasing emaciation, and in most cases an avaricious appetite. This form of disease generally comes from the low countrys of the West and South. The treatment that has succeeded the best in the hands of the author, is the thoroughwort pills as a regulator; and the blood-root tincture to operate on the liver; made thus—

Take of blood root, 1 part, unicorn root $\frac{1}{8}$; ferrana $\frac{1}{8}$; compound and put into a little water and let it stand till the strength is mostly out, then strain and squeeze or press it through a cloth, then add sugar, and it is fit for use. It is good in all cases of liver complaints, or where the liver is affected in any shape. It is a powerful actor on morbid affections of the liver. It will destroy all inward fevers; cause an appetite, give tone to the digestive organs, and regulate the system.

A dose for a patient 1 teaspoon full 3 times a day; say before eating. Do not slight this little tincture because it is simple—you must recollect that simple means affect great cures; when means performed to make a great show, destroy health and sometimes life. But after the above named fever, or worn out ague and fever, so called, has had a short course, it will run a patient into other complaints, unless means are used to cleanse the system and give tone to the organs of life.

After you commence the use of the blood-root tincture, if the fever abates, you can add to it one third good Holland gin, and use as above recommended. You will perhaps have as a harbinger of returning health, a hard fit of the ague before you are entirely clear of it.

NERVOUS FEVERS.

Called also, Slow Fever, Long Fever, Mild Typhus, Slow Typhus, &c. &c.

SYMPTOMS.

General langor and lassitude, alternate chills and flushes, dejection of mind, loss of appetite, confusion of thought, giddiness, pain in the head, dull pain in the back and limbs, and flying over the whole body, nausea, and vomiting; short anxious breathing, pulse weak and quick, often intermittent. Tongue at first white and moist, covered with slime; border indented with the teeth; afterwards dry, brown, and tremulous, little thirst, urine pale, low muttering delirium.

As the disease advances, the heat becomes intense; tongue dry, brown, and morbidly red; delirium, with suffuse redness of the eyes, flushed countenance, throbbing of the arteries of the neck and temples, urine scanty, high colored and fetid, sometimes drenching sweats, profuse diarrhœa, starting of the tendons, lethargic sleep, involuntary evacuations, cold extremities, convulsion, and then the king of terror, death.

Such is generally the progress of this disease. Sometimes, however, the patient gradually, and almost imperceptibly sinks; no threatening symptoms, no anxiety, no pain or distress; yet in such cases the arteries are seen to tremble or throb under the chin, and a dark rose or poeny colored spot appears on one cheek, while the limbs are apt to be cold.

Favorable symptoms.—About the seventh, fourteenth, or twenty-first day, the tongue peels and becomes moist, showing a conical point and vigor of motion when put out and quickly retracted; moist skin, gentle diarrhœa, pulse becoming slow and full, sores about the mouth and nose.

Unfavorable symptoms.—When no crisis appears on one of the above days, with all the above symptoms enumerated in the second or advanced stage.

CAUSES.

Exposure to a damp cold atmosphere, depression, exhaustion from fatigue, more especially in persons of delicate habit, accompanied with irritability and sensibility, or sedentary life, or poor living and indolence. It is distinguished from *malignant typhus*, by its attack being more general, the succession of symptoms being less rapid and less urgent. From *Inflammatory fever*, by the pulse being quick, weak and feeble. (See malignant typhus.)

TREATMENT.

An emetic or a cathartic should begin the treatment, after which sweating must be brought on if possible, and an emetic of thoroughwort ipicac, must be given and after it acts as an emetic, give it in tea constantly until it operates as a cathartic and brings on sweating.

After the stomach and bowels are cleansed and a moisture appears, give tonics. Such as Virginia snake-root, columbo, dogwood bark, willow, &c. But if delirium follows, blistering on the back of the neck, and drafts of mustard on the bottom of the feet are good. These allay irritation, promote perspiration and procure sleep for the patient.

After the emetic and cathartic has operated, the patient must take the thoroughwort pills, and make constant use of the blood-root solution; and the opium fever powder is good at the rise of the fever and on going to bed. Made thus—

Take 10 grains of opium; 10 grains of ipicac, and 20 grains of camphor; mix and make fine, and divide it into 10 doses or papers, and half, or the whole of one may be taken at the rise of the fever, and on going to bed.

Much has been said on either side the question, whether fever can be broken up during the first stages. Here I shall not attempt to argue or decide, but simply give the outline of the practice which some adopt, who say it can be done.

Dr. Jackson, (author on fevers,) during the cold stages, put his patient into warm soap suds, and rubbed him well with a brush; and afterwards, in the hot stages, before perspiration came on dashed on cold water till the fever heat was gone.

Dr. Currie, of Liverpool, used water in cold effusions during the hot stage when the heat was steadily above nature, and before natural moisture appeared on the surface.

Many physicians of our own country use powerful emetic and cathartic remedies at the commencement of fevers. Others excite salivation with a view of breaking up a fever. [Salivation is a wrong thing.]

The above plans have all been published, and supported by those who believed them practicable.

It remains for me to give the means that I have adopted. It consists in giving at the commencement of the disease a powerful emetic, of thoroughwort ipicac and mandrake roots, and when the fever is on, use the electricity. Give the patient several shocks, and it will raise a perspiration with the assistance of black snake-root tea, and other teas which help nature in throwing off fever. Then give the Dover's powders, the blood-root solution, &c.; this will have a tendency to throw off the fever, and if it does so, then give the tonics to strengthen the patient.

TYPHUS FEVERS,

Called also, Malignant, Putrid, and Spotted Fever.

SYMPTOMS.

The attack is much more sudden than that of nervous fevers; the strength gone, the horror and anxiety is beyond expression.

The skin cold, or of burning acrid, almost stinging heat; the pulse quick and small, sometimes halting, at others wiry, attended with nausea and bilious vomiting; intense pain in the head, ringing in the ears, throbbing in the temples, beating of the arteries, visible in the neck, fiery redness of the eyes, furious delirium, tongue dry, black and encrusted, breath hot and offensive. Black crust collects on the teeth, urine at first pale, thin, high colored, offensive, or depositing a black sediment.

As the disease advances, bleedings take place from different parts of the body; red, blue, or black spots appear under, without raising the skin; involuntary evacuations extremely offensive, pulse sinks, and intermits, extremities grow cold, hickups, convulsion and death.

This fever is distinguished from all other fevers, by symptoms which cannot be mistaken. Always dangerous, more especially if it is preceded by the coming on of the symptoms mentioned in the advanced stage.

Favorable symptoms.—Rising of the pulse, return of sleep and reason, the spots being of a florid color, and fever abating in a great degree, and a moisture appearing on the skin, tongue peals, &c.

TREATMENT.

As in the case of the nervous fever, first give an emetic and cathartic, and proceed as in nervous. And you will find frequent change of bed, and linen, to be of service to the patient, sprinkling the floor with vinegar and water, pure air; and every attention should be paid to cleanliness. Decoctions of oak bark, black snake root, cinnamon, &c., will be found beneficial to the patient. If bleeding should appear, you must give opium, and a tea made of the root vulgarly called deer's tail. Light nourishing diet should always be given, such as broth, jelly, &c., as in nervous fever. After the fever has abated and the patient is in a fair way of recovery, he must be cautioned not to make any sudden exertions of

his strength, or be suddenly raised to a perpendicular posture, which has some times proved fatal. Make constant use of the fever powders, Dover's powders, spirits of nitre, elx vitriol, and fever solutions.

The above fever is one that prevails or is apt to attack a patients after they have had a run of the bilious fever, or if the bilious is not conquered by the 13th or 14th day, or if a crisis does not appear the typhus sometimes sets in.

PUTRID, MALIGNANT, YELLOW, AND SPOTTED FEVERS.

These may be classed together, because they are each produced by similar causes, and require very little, if any, difference of treatment. To this class belongs the *hospital fever* and *pestilence*. These fevers are of a malignant character, and putrefaction takes place towards their close.

CAUSES.

This fever is occasioned by foul air; putrid animal and vegetable effluvia, or infectious particles; confined air, crowded with people, and not properly ventilated, is a frequent cause. A foul air with long rainy and foggy weather, impedes perspiration, and therefore occasions putrid fevers. Damaged grain, dry hides, dead carcasses tainting the air, especially in hot seasons, are very apt to occasion putrid diseases. They may also be produced by the contiguity of slaughter houses, &c. The obstruction of insensible perspiration, is no uncommon cause of this class of fevers; for the retention of those particles within the body which ought to have been thrown out of it, may, and often does, occasion a speedy putrefaction, especially when there is the least predisposition to such a dissolution.

We shall only add, that putrid and malignant fevers are highly infectious, and are therefore to be communicated by contagion; for which reason all persons ought to keep at a distance from those affected with such diseases unless their attendance is absolutely necessary.

SYMPTOMS.

The malignant fever is generally produced by langor, a remarkable weakness or loss of strength without any apparent cause.— This is sometimes so great that the patient can scarcely walk, or even sit upright without being in danger of fainting away. His mind, too, is greatly affected; he sighs and is full of dreadful apprehensions. There is a nausea and sometimes vomiting of bile, pain in the temples and orbit of the eye, the eye becomes yellowish, or inflamed, the face bloated and of a cadaverous aspect, faintness, difficult respiration, frequent sighing, wandering pains, the pulse small, sometimes quick and sometimes the same as that of a person in health; black tongue, bitter taste in the mouth, crude vapid urine, livid eruptions, black and blue spots, furred lips and teeth, little thirst, sores in the mouth, tingling in the ears, pain in the loins and small of the back, violent diarrhœa. If blood be let, (which heaven forbid,) it appears dissolved and soon becomes putrid, the stools small, extremely fetid, and are sometimes of a greenish black, or redish cast, sometimes there are violent discharges of blood from the mouth, nose, eyes, &c.

Simple putrid fevers may be distinguished from the *inflammatory*, by the smallness of the pulse, dejection of mind, purple spots, dissolved state of the blood, and putrid smell of the excrements. They may likewise be distinguished from *nervous*, by all the symptoms being more violent.

It sometimes happens that the *inflammatory*, *nervous* and *putrid* symptoms are blended together. The inflammatory are more prevalent in the *yellow* fever. In judging, therefore, to which class the fever belongs, some caution is requisite, as inflammatory and

nervous fevers may be converted into putrid and malignant by too hot a regimen, or improper medicines. The duration of these fevers depends mostly on the manner of treating them.

Favorable symptoms.—The most favorable symptoms are, a gentle looseness after the third, fourth or fifth day, with a mild warm sweat, a smarting red rash, scabs in the nose or lips, watery vesicles, the pulse rising upon the use of wine, deafness coming on towards the decline of the fever, and abscesses in the groin and under the ears. These are all good symptoms.

Unfavorable symptoms.—Black urine or stools, excessive looseness; a hard swelled abdomen, small dusky dun, or greenish spots, a ghastly countenance, large livid blotches, black spots, sweats profuse, cold or clammy; griping or bloody stools, drowsiness and coldness of the extremities, starting of the tendons, involuntary stools, &c., are generally forerunners of dissolution.

DIET.

In the treatment of this disease we ought to endeavor, if possible, to counteract the putrid tendency of the humors, to support the patients strength and spirits, and to assist nature in expelling the cause of this disease by gently promoting perspiration and the other evacuations.

Care should be taken to prevent the air from stagnating in the patient's room, by keeping it cool and pure, and renew it frequently by opening the doors or windows of some adjacent apartment. The breath and perspiration of a person in perfect health soon renders the air of a small apartment noxious; how much sooner then will this happen from the breath and perspiration of a person whose whole mass of humors are in a putrid state.

Besides the frequent admission of fresh air, vinegar, lime or lemon juice, or any kind of vegetable acid that can be most easily obtained, should be frequently sprinkled upon the floor, bed, and every part of the room. Fresh lemon or orange peel, sliced on-

ions, strong scented fresh herbs, as rue, tanzy, sage, mints, &c., should be frequently and freely distributed about the room; they are very refreshing to the patient. The fumes or scent of tobacco in the room is very disinfectious, when it can be born by the patient or attendants.

Few things are of more importance in this disease than acids, which ought to be mixed in all the patient's food and drink.—Therefore Smith says that boiled buttermilk is extremely applicable and often little more is required to cure. Orange, lemon, or vinegar whay, may be drank by the patients, according to their inclination. They may be rendered cordial by the addition of wine, in such quantity as the patient's strength seems to require. When he is very low, he may drink wine and water sharpened with the juices of lemons or oranges, or a glass of wine with a little water alone, if he can bear it. When the body is bound, a clyster may be given, or he may drink a decoction of tamarinds, both of which will quench the thirst, and promote a discharge by stool. If camomile tea will sit upon the stomach, it is also proper to drink in this disease.

The food must be light, as panado gruel, to which a little wine may be added if the patient is weak and low, and they ought to be sharpened with the juice of the orange, current jelly or the like; the patient ought likewise to eat freely of ripe fruit, as roasted apples, &c. Taking a little food or drink often, not only supports the spirits but counteracts the putrid tendency of the humors.

If the patient be delirious his feet and hands ought frequently to be fomented with a strong infusion of camomile flowers. Fomentation of this kind not only relieves the head, by relaxing the vessels in the extremities, but as their contents are absorbed and taken into the system, they must assist in preventing the putrescency of the humors.

The author lays no claim to originality in giving a description of the above fever, but has taken it principally from Smith's Botanic Physician. The reason of his so doing is, that the yellow

fever is not a disease that northern people are subject to; and furthermore, it is a disease that I have never had experience in handling, therefore I shall give the prescriptions principally from other's knowledge of the disease, and not my own. It is impossible for me to give a correct treatment of the yellow fever, before I have had a case of it to handle. And it is likewise impossible to give a description of the symptoms and cures of this disease, as it prevails and is handled at the south; but I will try to give some aid, if possible, to those who are afflicted with such putrid and loathsome complaints as the yellow fever. The author has not had experience in the treatment of this disease, neither has he had a case of it to handle; nor is there but a very few medical men that have, or ever saw a case of it. There are to be sure, some who have been to the Southern states, and perhaps have seen a few cases; but it has been the author's luck not to have a roving mind, consequently his practice has been confined to the State of New-York, and not extended to the Southern states; therefore my readers must not look for a correct treatise upon this disease from my own experience, but from the experience of others who have written upon the subject.

The medicine that I shall recommend to my readers for the yellow fever, is according to book knowledge of the disease.

TREATMENT.

If an emetic be given at the beginning of this fever, it will not fail of having a good effect. If the disease is far advanced vomits are not quite so safe; the body, however, is always to be kept open by clysters or mild laxative medicines, as small doses of rhubarb, senna, &c.

If the spots should suddenly disappear, the patient's pulse sink remarkably, and a delirium with other bad symptoms comes on, we would recommend warm poultices of mustard and vinegar to be applied to the feet and hands; saffron cordials may also be given internally.

In the most dangerous species of this disease, when it is attended with purple, livid spots, and they are sometimes black, acids, particularly the boiled buttermilk, or whay, prove very successful even in cases where the spots had the most threatening aspect. But to answer this purpose they must be taken in large doses and well persisted in. In any stage of this disease the fever powders must not be omitted; if necessary, let them be given in such quantity as will keep the pores gently open and throw off putrefaction. But if the malignity of the disease becomes formidable, and nature inclines to a dissolution, or before these threatening symptoms appear, we may resort with confidence to the use of fresh killed flesh, applied warm with natural heat to the pit of the stomach, particularly if the stomach be distressed or obstructed, and then upon the glands in the groins, armpit, neck and soles of the feet, or over half the surface of the body, according to the urgency of the case. These extract the putridity and poison, and give almost immediate relief, stinking with corruption in a very few minutes after it is applied, and then they should be removed and fresh pieces be applied; continually changing in this manner till the wished for relief is obtained. For this purpose, fowls are generally the most readily obtained, and they should be cut in two lengthwise and instantly applied. It matters not; however, of what animal the flesh is, using that which can best be spared. Fresh meat quickly absorbs putrefaction. The following anecdote exemplifies it:

The garrison of Gibraltar when they fear the plague, (which that place is very subject to,) elevate a piece of fresh meat in the air at night, and if they find it sweet and untainted in the morning, they conclude there is no danger, but if it has become putrid they expect the plague.

Onions, garlicks, bruised potatoes freshly dug out of the earth and roasted with or without washing, and applied as poultices to the soles of the feet or any part of the body, are also very efficacious in extracting the morbid matter and relieving the system.

Even fresh earth, alone, warmed and applied over the body, is considered almost a certain cure for the Yellow fever.

In the Spanish West Indies when a person is attacked with it, they dig a hole in the earth large enough to receive the whole body, and after warming it a little, place the patient into it completely, burying all except the face, and there let him remain till the fever and taint is extracted and relief obtained.

If there be a violent looseness, nothing can be more beneficial than plenty of acids, and such things as promote a gentle perspiration, thereby turning the humors outwardly.

If the patient is troubled with vomiting or nausea, after the proper evacuations have been made from the stomach, a drachm of pearlsh dissolved in an ounce and a half of fresh lemon juice, and made into a draught, with one ounce of simple cinnamon water, and a bit of sugar may be given and repeated as often as necessary.

If swelling of the glands appear, their separation is to be promoted by the application of ripening poultices, and as soon as there is any appearance of matter in them they ought to be opened and the poultice continued.

Large ulcer sores sometimes break out in various parts of the body, on the decline of the fever, which are of livid gangrenous appearance and a most putrid smell. These gradually heal upon the application of a cleansing poultice, such as charcoal and yeast, and the use of acids, tonics, and cordials internally. In Typhus fever, yeast may be given internally, which cools and relieves the stomach greatly.

Cleanliness in the strict sense of the word, is to be most carefully attended to, therefore the bed and body linen should be frequently changed, and the excrements instantaneously removed. The patient should be covered lightly with bed clothes, his apartment kept cool and properly ventilated, and acids and aromatics frequently sprinkled about the room.

When a putrid fever seizes any person in a family the greater

attention is necessary to prevent the disease from spreading. The sick ought to be placed in a large room as remote from the rest of the family as possible, and those in health ought to avoid all unnecessary communications with the afflicted. And one who is apprehensive that he has caught the infection, ought immediately to take an emetic and work it out of the system. Camomile tea is good to drink plentifully.

Those who wait upon the sick in putrid fevers, as well as physicians, ought always to have a piece of sponge or a handkerchief wet with vinegar or lemon juice, to smell of while near the patient. The preparation known by the name of "Thieve's Vinegar," has the reputation in some parts of Europe, of being a complete guard against infections, let the exposure be ever so great.

This composition was used by four thieves, who during a great plague at Marseilles, entered the infected and deserted houses, and plundered unharmed. They were afterwards taken and convicted, when they were promised pardon, on condition that they would reveal the secret of their protection. The composition is, to infuse in a gallon of vinegar—of the best wine vinegar—rue, rosemary, lavender and sage, of each one handful, and stew heads of Spanish garlicks peeled and cut into slices; after 24 hours infusion, if any one has occasion to expose himself, he may do it without danger, by drinking a table spoon full of this liquid and rubbing it on his hands and on his breast.

This vinegar, thus prepared, will keep any length of time, if well bottled, and ought to be kept in every family as it is in many parts of Europe. Many lives might be saved by using it in the first stages of the infection.

In this as well as in other fevers, applications of cold water to the head is beneficial, especially where there is inflammation or drowsiness in the head, attended with delirium and anxiety, or where there is great pain in the head. For this purpose, nothing can be better than cold or cooling anodyne washes, when the fever rages high and there is great heat and constriction upon the

surface, the whole skin may be bathed and rubbed with a solution made of potash lie, not omitting the fever powders.

SPOTTED FEVER.

Perhaps there is no disease which so soon makes the tongue to falter, the knees to totter, locks up the senses, alienates the mind, and with unconquerable weakness saps the very basis of our life, as that of the Spotted fever. It is not confined to any season, and it has not been observed to choose any particular aspect or atmosphere, but visiting in turn the bleak ridge and the banks of the clear stream. Though the leading features of this enemy to man and friend to death, is always the same, yet his dress is astonishingly varied.

SYMPTOMS.

Some patients are seized with violent pains in the stomach, head, joints, limbs, and frequently the pain is confined to a single point, often to a single toe or finger. Some have a violent ague or shivering, and yet are not sensible of cold, and some have no heat succeeding this symptom. Some are taken suddenly totally blind, or deaf; others are not affected at all in those organs. The palsy of a member is not unfrequent, and a strange numbness is felt in the nose and face of some that have this disease, which leads them to rubbing their face for hours.* Some have raving or furious

*This is not a symptom which many consider as indicative of an over dose of laudanum, and was one among many which appeared in the Spotted Fever, (such as staggering and inarticulation, &c.) and induced bye standers to suppose the patient intoxicated by medicine, when the fact was, no medicine had been given; and those dreadfully equivocal symptoms never give way but upon liberal use of powerful stimulents, such as laudanum, spirits of ether, and cantharides.

delirium, others a playful or hysteric alienation of mind, while others are more shrewd than before. Some fall into a snoring lethargic sleep from which nothing can arouse them. Some are so painfully sensible as to complain of the slightest touch or motion, while others feel not the prick of needles, nor yet the contact of live coals. The voice becomes low and melancholy; the countenance sunken, the eyes sparkling, the breath failing, and the air seems to withhold from the gasping victim or sufferer, its invigorating energy. The pulse is commonly frequent and irregular, and often interrupted. In some cases it seems inflated, yet would disappear upon the slightest pressure. Sometimes when the pulse is gone in the wrist, the arteries of the neck can be seen beating with seemingly impatient and fretful motion.

In many cases bleeding is frequent in different parts of the body and often proves fatal. Purple spots* appear in some from oozing of the blood from the relaxed vessels of the true skin, yet without sufficient force to penetrate or alleviate the scarf skin, and spreading to various sizes, from a point to that of a shilling, and assuming different hues from scarlet to black.

From the onset a clay-like coldness comes over the whole body or system, and all efforts to restore genial warmth are frequently unavailing. The tongue is in some cases clear and moist, in others dry, and in others bloodless; in the progress of the disease it commonly turns brown or black. The swelling is often different

*Nothing can be more absurd than to style this disease "Spotted fever," merely because purple spots often appear or attend, among other symptoms. It might as well have been called Blind fever, Bleeding fever, or Freezing fever, as Spotted fever. Indeed in this disease there are often no spots nor fever at all, and the patient is in many cases dead before fever could form.—We know fever, strictly speaking, does sometimes follow an attack of this disease; and so it does some labors, and riding in any way in a foggy morning or night, or sleeping on damp ground; yet whoever thought of styling the last mentioned state of uncomfortableness, fever, any more than they would a tooth ache or head ache, or any thing else that mankind are subject to. It is very absurd to call all or any of the above named, Spotted fever.

from canker in the throat, or from palsy of the parts. Nausea and vomiting commonly harrass the patient from first to last, yet the contents of the stomach are not at all vitiated. The bowels seldom suffer at all in this disease.

A horrid sensation of cold is felt in the stomach, as of ice melting there. This symptom as well as that of vomiting, is greatly aggravated by drinking cold water, or any cold weak beverage. Patients who inquire for water cannot distinguish it from brandy.

It must not be supposed that the whole of the above symptoms appear in any one case. What is put down in this article is applicable to the more severe cases. Like every other disease, however, it sometimes occurs in so mild a form as to require very little medication. Yet it should not be out of our minds that many without feeling themselves or exciting in their friends the least alarm, have suddenly and silently sank into the arms of death, and that even, while their physicians were beginning to investigate their case.

TREATMENT.

Now friends to the sick, or you who profess to be the sick man's friend, let us pause for a moment and strive to bring our minds steadily upon the work; let us calmly look over the above enumerated appalling symptoms, and two prominent considerations will force themselves upon our minds, viz:

The immense prostration of the vital powers calling imperiously for support of the most prominent kind, and that nothing can be expected from evacuations, as the contents of all the cavities are *ad initio* uncontaminated.

Under this view of the subject we see what must decide "when Doctors disagree," the case giving laws to the prescriber, and the symptoms pointing with iron index to the only means which can save the patient from sinking, viz: Cordials, stimulating medicine, and nourishing diet.

The pressure of the disease and the remaining strength must

determine the kind and quality of means, and the choice is between going into a warm bed and drinking penneroyal or peppermint tea; or a hot bath with brandy, laudanum, ether and cantharides.

Begin the treatment by putting the patient into a warm bed, apply flannels wrung out of hot water, or bladders of hot water to the sides and feet of the patient. But if the disease assumes more than a slight attack of the patient, give to drink hot wine whay, milk punch, or warm wine and water.

If obstinate nausea, or vomiting appear, give hot brandy, (a spoonfull at a time,) with only water enough to keep it from strangling. Put a blister on the stomach, and if lethargic sleep or symptoms come on, apply blisters round the head, and increase all the stimulents. If warmth and moisture appear and the pulse raises, there is hope; yet the patient must be kept still, and sustained by tonics, and the disease kept at bay, by laudanum in full portions, every two or three hours, with tincture of cantharides and blood-root solution.

It has before been observed, that patients sooner crave and bear strong food, than in or after fever; yet it is possible for the patient to have a regular run of fever after he has passed this crisis or state of the disease; in such a case the patient should be treated as in the Typhus fever.

[Look at treatment of Typhus as before stated.]

SCARLET FEVER.

This fever is most commonly inflammatory, but sometimes, either at its commencement or in its progress, symptoms of Typhus appear. About the fourth day the face swells and spots of a florid red color appear scattered through the skin, which at length run together, and after three days disappear, the scarf skin peeling off

with the skin. It is not unfrequently succeeded by a dropsical swelling of the whole body. When the disease has symptoms of typhus fever, it appears like malignant quinsy, often that disease itself; when it is to be treated like malignant quinsy, or typhus fever. [See that disease.]

Scarlet fever is distinguished from measles, by absence of cough, sneezing, and flow of tears. The eruption is more diffused like a blaze, and not sensible to the touch.

TREATMENT.

Keep the bowels loose by gentle cathartics, such as rhubarb, castor oil, &c. Cool vegetable acid drink, such as lemonade, currants, raspberries, sorrel teas, with black snake-root tea, saffron and slippery elm teas, for constant drink.

Sponging the body with vinegar and water, if agreeable to the patient. Sprinkle the room with vinegar and water as often as it gets dry. If delirium or stupor comes on, blister between the shoulders. If soreness of the mouth and throat with difficulty of breathing, or swallowing, give gurgles of oak bark, allum and sage. At the decline of the disease give tonics, strengthening bitters in wine, and nourishing diet, such as broth, shell fish, &c.

INFLAMMATION OF THE BRAIN.

SYMPTOMS.

Horror, the face becomes flushed and turgid, the eyes stare as if starting from their sockets, furious delirium, tears sometimes burst from the eyes, sometimes sweat at every pore, skin dry and hot, parched tongue, at first fiery red, then white, yellow or black, hard rapid pulse. If the disease is not soon removed, stupor, insensibility, and a great failure of the strength.

CAUSES.

Exposure to heat, vertical sun, intemperance, &c. Distinguished from madness by its being attended with fever; from simple fever, by a delirium appearing as a first symptom; from typhus, by pulse being hard and rapid.

TREATMENT.

By a copious and sudden evacuation of blood from the arm or temple artery, application of leeches to the temple, putting the feet into warm water, and poring vinegar and water on the head, the head having been previously shaved. Blisters to the head, neck and legs, room secluded from light and noise; give no food during the inflammatory stages, except barley water, gruel, arrow root, &c. Purging must not be omitted in this case, and sometimes clysters are necessary. Make constant use of the fever powders and fever solutions, and promote perspiration with cream of tarter, life-root and thoroughwort.

INFLAMMATION OF THE LUNGS, OR
PERIPNEUMONY.

As this disease affects an organ so absolutely necessary to life, it must always be attended with danger. Persons who abound with thick blood, whose fibers are tense and rigid, who feed upon gross food and drink strong liquors, are most liable to this disease. It is most fatal to those who have flat breasts, narrow chests, and such as are afflicted with asthma, &c. Sometimes the inflammation reaches to one lobe of the lungs only, at other times the whole of that organ is affected, in which case the disease can hardly fail to prove fatal.

It proceeds from the same cause as the pleurisy, viz: An obstructed perspiration, cold, wet clothes, &c., or from an increased circulation of the blood, by violent exercise or the use of spirituous liquors, &c.

Many of the symptoms of pleurisy likewise attend an inflammation of the lungs, only in the latter disease the pulse are more soft, and the pain less acute; but the difficulty of breathing and oppression of the breast is generally greater. At the beginning the patient is cold and hot by turns, has small quick pulse, feels a sense of weight upon his breast, breathes with difficulty, and sometimes complains of giddiness in the head, the urine is usually pale, and his countenance pale and deathly; that is, in the last stages of the disease; but in the first, his color is not changed at all.

The regimen and medicine are much the same as in pleurisy, though the learned Doctor Arbuthnot asserts, that the common whay is sufficient to support the patient, and that decoctions of barley and infusions of fennel root in warm water, with milk, are the most proper both for nourishment and diet. He likewise recommends the steam of warm water taken in by the breath through a funnel, which serves as a kind of internal fomentation, and helps to attenuate the infected humors.

If the patient's bowels are lax and are much weakened by frequent stools, they must not be stoped, but rather promoted by the use of mild clysters; yet as the treatment of this disease and pleurisy have such a resemblance, the reader is referred to the treatment of the latter for remedies for the above complaint, as a principal guide, but yet some remedies are here laid down that are good.

When this disease is stubborn and unyielding there is danger of suppuration, which is more or less dangerous, according to the part where it is situated. When this happens in the pleura it sometimes breaks outwardly, and the matter is discharged through the wound; but when the suppuration or wound happens within the lungs, the matter floats in the cavity of the breast between the pleura

and the lungs; it can be discharged by an incision made between the ribs by a surgeon.

If the patient's strength does not return after an inflammation of the lungs, or after the disease is to all appearance removed, if his pulse continue quick, though soft, his breathing difficult and oppressed; if he complains of cold shivering at times, his cheeks flushed, his lips dry; and if he complains of thirst and want of appetite, there is fear of a suppuration, and that a phthisic or consumption of the lungs will ensue.

When this disease proves immediately fatal, it is generally by an effusion of blood or lymph into the cellular texture of the lungs, so as to occasion suffocation, which usually happens between the third and seventh day; but it may likewise prove fatal by terminating either in suppuration or gangrene. The last, however, very seldom happens.

You will find that blisters on the sides, black snake-root tea, and fever powders with the use of the lancet, will be a great help in stopping the ravages of this disease. And you must not omit the hoarhound tea, slippery elm, gum arabic, and flax seed teas; and you will find, if fever attends, that the fever solution will be of vast importance. Onion drafts to the feet and sides will be of importance also.

I have often stopped the progress of this disease by simply applying roasted onions to the feet and sides; mustard drafts are also good, flax seed poultices to the sides are good, and will help cure the inflammation. The application of carrots to the stomach is good to remove inflammation, and there are many other things which might be named, and which are simple in themselves, and easily obtained, that are good in this complaint.

PLEURISY.

SYMPTOMS.

Of inflammatory fever accompanied with a sense of weight in the chest, which in a short time becomes acute pain shooting into

the sides, from thence to the breast bone, or through the shoulder blade, breathing difficult and increase the pain, the patient cannot lie down on the affected side, cough frequent and hard, and pulse contracted, vibrating under the touch like the tense string of a musical instrument, tongue white, high colored urine, and indeed all the symptoms of inflammatory fever.

CAUSES.

Frequent exposure to vicissitudes of temperature, violent exercise of body, or exertions of the voice, violent colds caused by night air, riding and chilling the blood, &c.

TREATMENT.

Copious bleeding at the arm according to symptoms, fomentations to the sides. Brisk purges at the commencement, but you must lay aside purging medicines after the patient raises freely.

Sweating with tartar emetic 2 grains; sage tea, $\frac{1}{2}$ gill; mix and take a spoon full or teaspoon full at a time until it causes perspiration.

Apply a large blister over the affected part; drink freely of hoarhound and catnip tea; use also the blood-root solution to help about raising from the lungs; or make free use of teas of flax-seed, rye bran, cattail, flag-root, basswood bark, elm bark, and take ipicac 5 grains, hyssop tea, mix, and give the patient one teaspoon full once in 15 or 20 minutes.

The diet in all cases of inflammatory diseases should be gruels, whays, mucillaginous roots, plants, &c. &c.

INFLAMMATION OF THE STOMACH.

SYMPTOMS.

Anxiety, heat and pain in the region of the stomach, increased when any thing is swallowed, aggravated by pressure on the stomach, vomiting, hickup, pulse hard and small, great prostration of strength—send for medical aid.

TREATMENT.

Bleeding, warm bath, long continued fomentations to the abdomen constantly applied, and apply blisters to the part affected.

Surge Clysters:—small quantites of flax seed tea, barley tea, and gum arabic in water.

If there is but little fever give the following: Take gum ammoniac the size of a nutmeg, and of loaf sugar twice as much, mix and grind to fine powder, add one tea cup full of hot water, stir it well together and let it settle, then give a spoon full every half hour till the patient raises freely. Give also, to assist the above, warm teas, blood-root solutions, a composition of wild turnip, licorice stick and faruna.

INFLAMMATION OF THE LIVER.

SYMPTOMS.

Pain near the short ribs of the right side more or less acute, shooting to the top of the shoulders and through to the shoulder blades, increased by lying on the left side, fever, dry cough, sallow countenance, high colored urine, sometimes hickup and vomiting.

Causes.—Violent emetics, colds, and all causes the same as in inflammations generally.

TREATMENT.

Bleeding, cupping, blistering, large and repeated purges, and if the disease becomes chronic, give throughout pills and blood-root solution. A continued course of bitters and laxatives, as dandelion, columbo, soda, &c. A beverage should be used of black snake-root, rhubarb and soda.

As all inflammations originate in a similarity of causes, their treatment, consequently, varies but little.

INFLAMMATION OF THE BOWELS.

Acute pain in the abdomen increased by pressure, shooting and twisting pain around the centre of the abdomen, obstinate costiveness, abdomen tense, frequent inclination for evacuation from the bowels, vomiting occasionally bilious matter dark and fetid, fever, pulse quick, hard, contracted, great prostration of strength, high colored urine.

A frightful and alarming disease, distinguished from cold or bilious colic pains, by the pains in colic being removed or relieved by pressure, no fever attending, and the pulse being but slightly affected.

TREATMENT.

Blistering, bleeding, warm bath, fomentations continually applied to the bowels, poultice of onions, fresh killed fowls applied, boiled oats, &c. Give purges; be careful to keep the bowels open in some way; if physic will not do it, give clysters; there is no time to be lost—send quick for a physician.

You must always send for a physician before you apply the means laid down, or as soon as you ascertain that the patient is threatened with an inflammation in the bowels.

There is a slight inflammation sometimes takes place around the abdomen, with mild fever in the morning, bowels little costive, strength little diminished; caused by exposure of the lower extremities to water in windy weather.

Cured by blistering where the pain is most severe, and purges of rhubarb, and Culver's physic, should always be given in this case; and these should also be used in a severe case of the above disease.

I have known this disease prove fatal to many, but if the above means are faithfully adhered to, there is no doubt but that a cure will be effected in nine cases out of ten. You that are afflicted

with this distressing complaint, give the above prescription a trial and it is to be hoped you will find, by experience, its salutary effect.

INFLAMMATION OF THE KIDNEY.

SYMPTOMS.

Fever, pain in the loins shooting to the bladder, numbness of the thighs, high colored urine, vomiting, costiveness, and cholic pains.

TREATMENT.

Bleeding, applying leeches to the loins, cupping, salts, castor-oil, senna, cream of tartar, clysters and blisters are all indispensable. Drink plentifully of Sassafras twigs, dandelion, mallows, flax seed and slippery elm teas. Niter is also good in all cases of the above complaint. Warm baths, fomentations with camphor spirits and opiate; clysters are good and ought to be used in all case of inflammation of the kidneys. Also make use of the queen of the meadow, white-root, harlem oil, &c.

INFLAMMATION OF THE BLADDER.

SYMPTOMS.

Acute pain in the region of the lower abdomen, soreness and pain increased by pressure, painful discharge of urine, frequent inclination to stool, sometimes attended with vomiting.

TREATMENT

Nearly the same as in inflammation of the kidneys. In both diseases you must use wintergreen, sassafras, violets, peach tree

gum, gum arabec, and slippery elm teas. Juniper berries are an excellent article in all kidney or bladder complaints, and ought not to be omitted in either of the above diseases.

QUINSY.

An inflammation of the almonds of the ears and the throat.

SYMPTOMS.

Chills and flushes succeeding each other, and terminating in the hot stage of an inflammatory fever. Swelling of the palate and almonds of the ears, swallowing becomes painful and difficult, voice hoarse, shooting pains through the throat and almonds of the ears, frequent slimy spitting. Sometimes this disease proves dangerous and indeed fatal.

CAUSES.

Cold applied to the neck, damp, wet linen, wet feet, damp rooms, hallooing, blowing on wind instruments, &c.

TREATMENT.

The timely resort to an emetic will frequently check the formation of the disease. Give fever powders; bleed if the pulse is high, cupping, leeches are good, blisters on the throat and neck are also good. A piece of flannel previously dipped in volatile liniment wrapped round the neck. Purging with salts, a few grains of nitre with loaf sugar and slowly dissolved on the tongue and swallowed, sweating with black snake-root, life-root, balm, and hyssop teas.

Inhaling steam of water, vinegar and camphor, mixed together and made hot; gurgles of sage and rose teas sweetened with honey.

If it will go on to suppuration, poultice, with hops and flax seed, onions, rattle-snake, violet, or king's evil weed, cordess, &c.

If there is danger of suppuration, the swelling may be opened at any time with safety by a surgeon. The poultice may be applied at the commencement of the disease, as it often effects a cure without the aid of other medicine.

The quinsy is a bad complaint at the best, and if you do not remove the cause you will be under the necessity of having the lancet applied oftener than you would wish. You will find, therefore, the application of the poultice, the liniment, the teas, &c., to be indispensable in removing the cause, and effecting the cure of the quinsy.

MALIGNANT QUINSY.

This disease is a kind of uberous sore throat attended with typhus symptoms, and sometimes with typhus fever, and require the treatment of typhus with the addition of gurgles frequently used.

Take half pint of gin, the juice of one lemon, one third sweet-oil, one third molasses, mix and take one teaspoon full as often as the patient is in need, or once in half an hour.

Apply also a poultice made of onions, skovist or rattle-snake violet, and cordas, and make constant use of the fever solution, and the blood-root solution, in small doses. All the above remedies you will find good in this complaint.

INFLUENZA.

An epidemic cold; whole countries are sometimes affected with it. It has been thought contagious, but its progress is too quick and its effects too general; contagion is slow. It seems to depend on a peculiar state of the air, and sweeps away thousands at a blast.

SYMPTOMS.

Fever, weight and pain in the head, oppression of the chest, and difficulty of breathing, sense of fullness and stopping of the nose, watery inflamed eyes, chills and flushes, soreness of the jaws and windpipe, cough, pain in the chest, shooting pains in the head and back, running of a scalding fluid from the nose, &c.

DIET.

If the fever is inflammatory a pure diet of vegetables is best for the patient, and should be used in preference to animal food. And perspirative teas should always be used, such as bran, flaxseed, and thoroughwort in small doses. But after the fever subsides give oxymel, squills and laudanum.

If the fever has symptoms of typhus, with prostration of strength, give wine whay with hartshorn, warm wine, snake-root, and opium, especially to old people.

TREATMENT.

In the course of the treatment give snake-root, or snake-bite so called, thoroughwort, motherwort, and sorrel teas, &c. If the symptoms run high, in either case, blistering may be used to advantage, also mustard drafts to the feet will be found good.

Warm drinks should always be used, and in advanced stages you must give the fever solution, snake-root tea, &c.

COMMON COLDS.

A common cold is produced by suppressed perspiration, and will be easily cured by causing the perspiration again to return to the surface, or the patient will be free as soon as equable perspi-

ration is again restored. Abstaining from animal food, drinking freely of cold water on going to bed, will some times remove the cause of a cold; or tepid bath-herb drinks, as hoarhound, motherwort, flax-seed and tansy teas. Laying in bed late in the morning will commonly loosen a cold.

If symptoms are the same as in influenza, or if the symptoms run high, treat as laid down in influenza.

THRUSH, OR CANKER.

The mouth becomes redder than usual, tongue swelled and rough, white specks or spots invade the palate, almonds of the ear, and inside of the cheeks, gums and jaws. The disease sometimes spreads to the stomach and bowels, and they also frequently disappear in a day or two, and then return again. But this is more favorable than to have the first crop continue.

While the spots remain white or yellow, and the space between them are of a florid red, and moist, there is no danger. But if there is hickup, oppression, pain in the stomach, and sense of supuration, and the spots turn brown or black, great prostration of strength, &c., it is nearly allied to malignant quinsy, and should be treated as such.

TREATMENT.

Emetics of ipicac, gentle laxatives of manna, rhubarb, oil, and emollient clysters, and touch the spots with borax and cream.—Apply also the frog ointment to the affected part; also use crane's bill, slippery elm, and rose leaf teas; golden seal, and gold thread made into a wash and sweetened with honey.

If the stomach and bowels seem much affected, a powder of borax, nut galls, chalk and charcoal; equal parts and ground fine. Five or six grains of this may be taken every four hours, and oftener if it does not produce costiveness. If the strength fails, give

wine whay, nourishing food, canker-root, oak bark and allum, bass-wood; and upland violets, are all useful in a course of this disease.

There is a chronic kind of canker which yields to emetics, cathartics, and such simple remedies without the use of other means to remove the cause.

CONSUMPTION.

SYMPTOMS.

Regular consumption begins with a short dry cough, so slight as to become habitual before it excites the attention of the patient. The breathing is more easily hurried by bodily motion, the patient becomes languid, and indolent, and gradually loses his strength, the pulse becomes small, soft and quicker than usual. At length from some fresh exciting cause, the cough becomes more considerable, and is particularly troublesome during the night, the breathing more anxious, sense of straightness and oppression of the chest is experienced, and a raising from the lungs of a frothy mucus, and is most considerable in the morning, afterwards becoming more copious and opake. The breathing becomes more difficult, the emaciation and weakness go on increasing, pain arises in some part of the chest, at first, generally under the breast bone, but as the disease advances, it is felt in one or both sides, is increased by coughing and is sometimes so acute as to prevent the patient from lying down on the affected side. The face now begins to flush and the pulse becomes quick and hard, the urine is high colored and deposits a briny sediment, the palm of the hands and soles of the feet are affected with burning heat, the tongue, from being white, is preternaturally clean and red, the matter raised is now like that from a boil, dull white, or turned of yellow and green; all the symptoms are increased towards evening, and the fever assumes the hectic form.

Hectic fever has two exacerbations in a day, the first about noon and is inconsiderable, and is soon followed by a remission, the other in the evening, which gradually increases till after midnight. Each exacerbation is commonly preceded by chills and is terminated by a profuse perspiration, and the urine deposits a sediment. The appetite often now amends, the white of the eyes assume a clear pearl color, during the rise of the fever a red spot appears on each cheek, at other times the face is pale and dejected, food is vomited up, a diarrhoea comes on and gradually and generally alternates with drenching sweats, the emaciation is extreme, the countenance sunk, the cheeks prominent, the eyes hollow and languid, the nails are hooked, the feet and legs swell, thrush in the throat; still the appetite remains entire, and the patient flatters himself with hopes of recovery, and is sanguine in calculations of future usefulness and happiness, when death with his sly and invisible step, comes in and forces the spirit to yield up its tenement of clay.

CAUSES.

Hereditary predisposition, marked by long neck, prominent shoulders, narrow chest, slender fingers, scrofulous constitution, known by fine clear skin, fair hair, delicate rosy complexion, large veins, thick upper lip, weak voice and great sensibility. Caused also by other diseases, such as bleeding at the lungs, pleurisy, catarrh, asthma, kings-evil, venereal diseases, measles and small pox, the dust of certain trades, as that of stone-cutting, milling, &c., fumes of burning poisonous metals, intemperance, profuse evacuations, natural or artificial, depressing passions, damps, colds, &c.

TREATMENT.

In the first stages give an emetic and cathartic, and if it assumes a hectic form, give the fever solution and fever powders, and make general use of expectorant medicines, such as the blood-root

tincture, wild turnip, &c. If the disease proves obstinate, apply blisters or setons to the affected parts; likewise give fox-glove in tincture, beginning with 6 drops, and increase the dose to 25 drops. Give the fox-glove in an infusion of gentian, to be given from 3 to 4 times a day. If the patient is costive make use of the thoroughwort pills in small doses, sufficient to regulate the bowels; keep the bowels loose, but not run the patient into a diarrhoea.

If the cough is dry and obstinate, make a constant use of mucilaginous drinks, such as slippery elm and sassafras twigs, gum arabic, &c., and in all stages of the consumption make use of balsam tolu in paregoric. Mix equal parts of balsam and elixer paregoric, take for a dose twice a day, one teaspoon full morning and evening; likewise for a change, make use of a solution of dandelion root, blue flag-root, and essence of annis; and make a tea for the patient, of fever-root, or commonly called crawly, and black snake-root; likewise put into the tea, hyssop and fever bush; make constant use of this tea, and also give barley coffee to support and nourish the patient.

All of the medicines above mentioned for the consumption you will find compounded, or the manner to prepare and mix for use, in the following index:—

1st. Take 1 ounce wild turnip, 1 ounce licorice stick, $\frac{1}{4}$ ounce farunna, $\frac{1}{8}$ lobelia, compound and make fine; then take a teaspoon full of the above composition and add to it a teacup full of boiling water and let it stand and settle, then turn it off and add 2 grains of soda and it is fit for use. Take as laid down, or as directed above for the disease. Dose, 1 teaspoon full in three hours; if fever runs high give oftener.

BLOOD-ROOT TINCTURE.

Take of blood-root 1 ounce, cattail flag-root 2 ounces, and 2 oz. of selendine, pound and steep it in cold water, say 1 pt. of water; then add 1 gill of gin, after straining the roots from the water;

then add 4 ounces of honey, and it is fit for use. Use as recommended heretofore. Dose, 1 teaspoon full; three times a day if the cough is dry.

FEVER POWDER.

Take 1 ounce ipicac, 1 oz. wild turnip, 1-6 oz. farana, $\frac{1}{8}$ oz. lobelia, $\frac{1}{4}$ oz. camphor gum, make fine and compound, and add $\frac{1}{4}$ oz. of soda. Dose, 1 grain; once in 6 hours when the fever is on. Use all the above as is laid down in lung complaints.

DANDALION SOLUTION.

Take 8 oz. dandalion-root, 2 oz. blue flag-root, pound and steep in 1 quart of water, then strain and add to it 1 pt. of gin, and $\frac{1}{2}$ ounce of essence of annis. Dose, 1 table-spoon full; take three times a day.

SYRUP FOR THE CONSUMPTION.

Take 2 oz. of spikenard, 2 oz. black snake-root, 2 oz. hyssop, 2 oz. garden colts-foot, 2 oz. skunk cabbage, 2 oz. gill-growover-the-ground, 2 oz. bark of Jerusalem, 2 oz. life-root, 1 oz. of bitter sweet; take one fourth part of the above and add to it 3 qts. water, and boil down to 1 pt., and strain and sweeten with honey. Dose, half wine glass; take three times a day before eating.

TAR SYRUP.

Take 4 table-spoons full of tar. $\frac{1}{2}$ lb. honey, the yelk of four eggs, beat all together, and add to it 1 pt. of good port wine, shake well together and put into it 2 oz. of spikenard cut in slices, green roots if they can be procured. Dose, 2 table-spoons full; take three times a day. This is an excellent medicine, but should not be given in fever.

BEEF TEA.

Take 1 lb. fresh beef sliced fine, 4 oz. garlic dried and pulverized, add water and boil until the strength of the beef and garlics is all out, then strain and add a trifle of salt. Let the patient take a table-spoon full once in three hours during the day.

The medicines heretofore laid down for consumption seldom fail of affecting a cure; but should it fail, you can say that the patient is incurable, or that it requires a power superior to that of man, to save him from the arms of death.

Should the patient die after you have faithfully tried the means as above laid down, you can feel the consciousness of having discharged your duty to the patient, both as a physician and christian, and, that it was the will of God that death should put a stop to his earthly career.

BLEEDING FROM THE LUNGS.

Coughing up florid frothy blood, heat and pain in the chest, irritation in the windpipe, saltish taste in the mouth. Carefully avoid heat, and every kind of exertion and agitation, cool drinks should be used constantly, and take a table-spoon full of salt, and repeat it if necessary. Sugar of lead, one grain, and one grain of opium, is a guard against bleeding at the lungs. Foxglove with laudanum 24 drops, three times a day. And light bleeding in the arm is good, if the pulse is sharp and quick.

Also give a tea made of harvest flowers; and also take one teaspoon full of gum amoniac, put it into equal parts of vinegar, water and honey, so as to make a teaspoon full of the composition. Dose, 1 teaspoon full four times a day.

DROPSY. (*Abdomen.*)

Dropsy in the abdomen is readily known by an abatement of appetite, scanty urine, thirst, shortness of breath, fever, general lassitude, with swelling and fluctuation of the abdomen.

This is sometimes mistaken for pregnancy; but if doubt remains on the subject, a few weeks will decide the matter and develop the true state of the case.

CAUSES.

All forms of dropsy may arise from the following causes, viz: Excessive drinking, poor diet, protracted intermittents, tumors of the abdominal viscera, violent inflammations, and whatever may occasion too free a secretion by the absorbing vessels.

TREATMENT.

The treatment must of course vary according to circumstances in this as in other diseases. But if taken in time, it is easily cured. Even in the worst stages, a cure is not to be despaired of. When the disease comes on suddenly, and the patient is young and strong, there is great reason to hope for a cure, especially if the following prescriptions are attended to:—But if the patient be old; has led an irregular life, or if there be reason to suspect the liver, lungs, ovary, or any of the viscera, are unsound or diseased, there is great reason to fear that the consequence will prove fatal. Abscesses, livid spots on the thighs, the body emaciated, the countenance pale and a cadaverous aspect, are harbingers of death. And when there is not strength enough in the system to assist the operation of medicine, there is indeed less hope.

THE CURE

Wholly consists in evacuating the waters which are gathered, and in preventing their collecting for the future. To promote

this end, cathartics, detergents, emetics, &c., and as a last resort, tapping, but avoid this if possible.

The patient must abstain as much as possible from all drinks, especially weak and watery liquors, and must quench thirst with mustard whey or acids, as juice of lemons, oranges, sorrel, elixer vitriol and the like. His aliment ought to be of a dry, stimulating quality, as toasted bread, the flesh of birds or wild animals roasted, pungent and aromatic vegetables, as garlicks, mustard, onions, horse radish, smellage, &c. He may also eat hard biscuit dipped in wine and brandy. This is not only nourishing but tends to quench thirst. Some have been actually cured of this disease by total abstinence from all liquids; this, however, is not always advisable.

Exercise is of the greatest importance in the dropsy; if the patient is able to walk, ride, or the like, he ought to continue these exercises as long as he can. His bed ought to be hard, and his apartment dry and warm. In a word, every method should be taken to promote perspiration, and brace the solids. For this purpose it will likewise be proper to rub the patient's body two or three times a day with a cloth or a flesh brush.

In the treatment of the dropsy, we should first ascertain whether the disease is an original or a sympathetic one, or some other, as by removing the cause, we shall be enabled to remove the effect also, and thus perform the cure. For example—

If the dropsy shall have arisen in consequence of intemperance, exposure to moist or damp air, profuse bleeding; or, if it has proceeded from long continued obstruction of the abdomen, chest, viscera, &c. the removal of these will be the best indication of a cure. Our next duty will be, to evacuate the serous fluid already collected; to strengthen the blood and restore the tone of the constitution generally.

MEDICINE TO BE USED FOR THE DROPSY.

If the patient is young, his constitution good, and the disease

has come on suddenly, it may generally be removed by strong emetics and brisk purges, such as gamboge and rhubarb; also blueflag made into a tea and given in small doses, will bring away large quantities of water. The diuretics should be of the warmest and most stimulating kind, as foxglove, artichoke leaves, garlicks, horse-radish, &c. any thing of a cooling or relaxing nature is hurtful.

After the first evacuation, if there is any prospect of overcoming the disease without tapping, we should endeavor by all means to do so, by a free use of the most bracing tonics, joined with diuretics; for this purpose I have used *tonic tincture*, and I have applied with success a poultice made of mustard, horse-radish and spikenard, to the feet, legs and bowels. Much may be expected from these, and they should not be omitted in any case.

Take of dry dwarf elder roots 8 ounces, of the bark of sassafras roots 8 ounces, of prickly ash bark 8 ounces, spice bush 8 ounces, 3 ounces of garlicks, 4 ounces of parsley roots, 4 ounces horse-radish root, and 4 ounces of black birch bark. Boil all in three gallons of small beer; then strain and drink a gill three times a day.

Another—Make a strong decoction of dwarf-elder and white oak bark; to this decoction, add a quantity of gin to suit the disease, and take half a pint three times a day, and it is necessary to take it sometimes as often as every hour, until it has the effect to bring away a free discharge of urine. After this, make a strong decoction of white oak bark, juniper berries, the leaves of artichoke, and burdock seeds; to this, add an equal quantity of gin, and take a glass three or six times a day. And if the patient is weak, omit the use of salt and dry food as much as possible.

Another—Take of the bark of the bush called Indian arrow-bush, or in Indian, Waa-hoo 8 ounces, green; add to this two qts. of water and boil till the strength is out, then strain and add one pint of gin and four ounces of loaf sugar. Let the patient take half a wine glass six times a day, and it will soon effect a cure.

This being of the nature of a cathartic, it should be taken until it operates powerfully as such, and then take it in smaller quantities in order to operate in the blood.

This noted medicine that is in so high estimation for consumption, and is called Waa-hoo, is one of the best of medicines for dropsy, when prepared as above directed. It is a medicine that I have used for years—it can be found on the flats of the Genesee river, and also in Ohio, Michigan, and in all the Southern states. It grows much like the barberry bush, the berry is red when ripe, and are three in a cluster, generally.

Another—Drink tar water twice a day; that alone has cured many; so have juniper berries, roasted and made into a coffee, similar to other coffee; or take senna, cream of tartar and jalap, half an ounce of each; mix them and take a drachm every morning and evening. It generally cures in 20 days. Doct. Ward says, it seldom fails in a watery or windy dropsy.

Or, drink freely of a decoction made of the tops of oak bows. This cured an inveterate dropsy in fifteen days after the patient commenced the use of it.

A word to the afflicted. If you make a fair trial of the remedies as above laid down for dropsy, and they all fail; you may make up your mind to suffer with the disease until death relieves you: For most assuredly if these medicines prove inefficacious, your physician's skill will avail you nothing.

DROPSY OF THE CHEST.

This is difficult of detection. It has, besides those common to dropsy, local symptoms, such as difficulty of breathing, aggravated by exertion or lying down; a sense of weight or oppression at the pit of the stomach; starting from sleep, cough, livid color of the lips, palpitation and irregularity of the pulse; and in the latter stages, the expectoration is frequently tinged with blood.

This is incurable, and all that friends can do is to keep the patient comfortable. Give physic and keep the bowels open, and relieve the pain by opiates. The doctor will tell you he can cure the patient, and will stick by till the disease gives off—and the patient *goes off* with it.

UNIVERSAL DROPSY.

The universal dropsy generally begins with a swelling of the feet and ancles towards night, which for some time, disappears in the morning. In the evening, the parts if pressed with the finger, will leave a pit.

The swelling gradually ascends and occupies the trunk of the body, the arms and head. Afterwards the breathing becomes difficult, the urine is small in quantity, and the thirst great; the body is bound and the perspiration is greatly obstructed; to these succeed torpor, heaviness, a slow wasting fever and a tickling cough which is very troublesome. This last symptom is indicative of a fatal result, for it plainly shows the lungs to be affected.

REMEDIES.

Take artichoke leaves three hands full; bruised juniper berries one pint; scraped horse-radish, one handful; green fir tops two hands full; and bruised mustard seed, two table-spoons full. Mix and steep, in two gallons of water—down to one. Dos ϵ for an adult, half a pint morning and evening.

No. 2. Make a tea of dwarf elder-roots, for daily drink, and continue it thirty days.

No. 3. Make a strong decoction of milk-weed roots and drink a wine glass full three times a day.

No. 4. Make a decoction of white clover flowers. Drink freely.

No. 5. Take masterwort root, half an ounce; and the bark or

flower of dogwood, 1 oz.; infuse in a bottle of cider and drink freely.

No. 6. Take a handful of the ashes of wormwood, infuse in a pint of gin. Drink freely. Dose, half wine glass full.

No. 7. Take four ounces each, of fennel seed, juniper berries, and orange peel; simmer in water; strain and add gin to keep it. Dose, a wine glass three times a day.

No. 9. Take half a pound each, of horseradish and parsley; two ounces of Virginia snake root; half a pound of white oak bark; half an ounce of the rust of iron. Put the whole with two gallons of cider into a stone jug, and stop tight. Let it digest over a fire for twenty-four hours; then strain and bottle up tight. Dose, half a wine glass three times a day.

No. 8. Take a handful of rose willow bark; a peck of dry chestnut leaves; boil in five quarts of water—down to two. Add a teaspoon full of sulphur. Dose, a teacup full three times a day.

No. 9. Boil one ounce of Seneca snake root, to three gills, and strain. Give a table spoonful every hour till the whole is used up, which will wholly or partly carry off the water. After which, give the following: Rust of iron, one ounce, motherwort root, fine, half an ounce; and ginger, half an ounce; all made fine and mixed for powder. Dose, a teaspoon full three times a day, in molasses.

No. 11. Take one pint of bruised mustard seed; two hands full of bruised horseradish; 8 ounces of lingum vitæ; and four ounces Indian hemp root. Infuse in seven quarts of hard cider, and let it simmer on hot ashes till reduced to four quarts. Dose, a wine glass three times a day. Rust of iron may be added.

Apply hot stimulating drafts to the feet and legs, as horse-radish, mustard seed, cayenna pepper, &c.

DROPSY OF THE BRAIN.

This disease is not only difficult to manage, but very painful and distressing on the unhappy sufferer on whom it makes its at-

tack. The majority of these cases are incurable. The disease takes a bold stand on the sensorium—the seat of knowledge—and in a short time deprives its victim of the use of reason.

CAUSES.

In adults it is produced by long continued study, severe colds, inflammation of the brain, by heavy blows on the head, violent passions, &c.; but with regard to young children, it is not unfrequently caused by teething. Irritation, affecting the nervous system and brain, is liable to produce this complaint.

SYMPTOMS.

A dull pain in the head, with some fever, beginning with light paroxysms of distress; perhaps two within twenty-four hours, and every day increasing—veins in the eyes begin to look red, with dull drowsiness and delirium—countenance pale—cheeks begin to be prominent—face and head somewhat bloated—paroxysms greatly increased—eyes begin to look heavy, languid and dull—the pupil or sight of the eye, begins to dilate and expand—the balls turn inward, towards the corner, as though squinting, and soon regulate again—the tongue becomes fumbling and articulation difficult.—These symptoms denote the last stage of the complaint, as well as the last stage of life.

TREATMENT.

In treating these cases, apply blisters to the head and neck, leaches to the temples, cupping, and mustard poultices to the feet. Some physicians have gone so far as to tap the head in these cases; but as I do not profess surgery, I would wish to be excused from operating.

RHEUMATISM.

Chills, followed by heat and fever, with hard, full, and quick pulse; obstinate costiveness; after one, two, or three days, tumour and pain, with inflammation, attack one or more joints, and they become extremely tender to the touch; tongue white; urine high colored; and sometimes profuse sweating without relief. In rheumatism the pain shoots.

Rheumatism often runs into a chronic state; the fever abates, and the pain or soreness continue. Sometimes chronic rheumatism is not preceded by acute pain.

CAUSES.

Obstructed perspiration; damp rooms; damp linen; exposure to cold after exercise, &c. When the patient is first attacked with this complaint, make use of a lie brine, and bathe the parts affected until the pain is removed. It should be applied as hot as can be borne, and by this method a general action is produced.

If the fever runs high the bath may be cool, but if numbness and cold affects the parts, the bath must be hot. Then give a portion of Indian physic. If this does not remove the complaint, take as much lobelia, pulverized, as will lie on the point of a penknife, three times a day, for nine days. This will produce a general salivation throughout the system—open obstructions—produce a general action, and cure the patient.

To prevent a relapse. Make a syrup of burdock roots, nettle roots, queen of the meadow roots, and life root; of each two oz. Boil them in one gallon of water, down to one quart. Then strain, and when cold, add one pint of good rum and two gills of molasses. Drink a glass morning and evening about two hours before eating.

Another.—Mix gum guaiacum in powder, with honey. Take two or three teaspoons full, or as much as you can bear without

purging, twice or three times a day. "This," said John Wesley, "is the best medicine I ever met with for chronic rheumatism."

Another.—Dissolve one ounce of gum guaiacum in three ounces of spirits of wine. Take six drops on loaf sugar two or three times a day.

Or, mix flour of sulphur with honey, in equal quantities. Take three table-spoons full at night and one in the morning, for one night only, and afterwards take half that quantity. It seldom fails of curing in a few days.

Or, says Burlingame, take black wasps nest, put in cold water, and let the strength soak out. Then let the patient drink a gill every hour, for four hours. Then give a portion of Culver's physic.

Another.—Burn the bark of white oak to ashes, put one gill into one quart of whiskey, and take half a wine glass 6 times a day.

Or, steep queen of the meadow root in new milk, until strong, and drink three glasses a day. This is good for flying rheumatism, and is thought by many to be a sure remedy.

But the great and sovereign remedy for all rheumatic complaints, says Burton, is to go into cold baths three times a day, for three days; then skip three. Repeat this for nine mornings in succession. This, he says, will generally effect a cure.

Let the patient at the first appearance of day light, put off his shirt and wrap himself in a blanket and plunge into cold water. Then come out, wrap in a dry blanket, go to bed and lay an hour or so, and he will find himself much relieved after repeating this a few times.

It will be recollected that this is not the author's prescription, but that of Doct. Barton; nevertheless it is good, and should be thought worthy of attention.

SYRUP.

Take one ounce of angelica; one ounce of masterwort; one oz. of life root; two ounces of dwarf elder; two ounces of spikenard;

one ounce queen of the meadow; one ounce burdock seeds; one ounce of one-berry or squaw berry. Add to this, one gallon of water and boil down to one quart. Then strain and add half a pint of brandy, and half a pound of loaf sugar, and it is fit for use. Dose, a wine glass three times a day, fasting.

INFLAMMATORY RHEUMATISM.

CAUSES.

Obstructed perspiration; exposure to sudden cold from extreme heat, such as leaving a warm stove room and going into the cold air, which obstructs perspiration and causes the cold to affect the system, and eventually settles in various parts. Sometimes it begins in the shoulders; sometimes in the wrists, knees, and other parts of the body and limbs.

It is attended with great inflammation, and often causes a contraction of the tendons. The joints enlarge. Sometimes the skin of the inflamed joints swell to that degree, that the patient feels as if it would burst. These symptoms are attended with acute pain.

The author can show the effects of this disease in his hands, feet and other parts of his body.

REMARKS AND REMEDIES BY THE AUTHOR.

I have been troubled with this disease, and have had it as hard, perhaps, as ever a man did and live. For four years I suffered to that degree, which rendered life almost a burthen to me. I employed the most eminent physicians, and they, probably, tested their skill to the utmost; but it was to no effect. Even the celebrated Doctor White failed in his efforts to give me relief. I had given up all expectation of being cured; when fortunately I heard

of a man who professed to cure many diseases with electricity; and, as a last resort, I applied to him. I did so I assure you, with but little faith in his ability to relieve me; but strange as it may appear, the electricity effected a cure in eight weeks from the first application of it. The electricity subdued the inflammation, caused free perspiration, and removed the pain and soreness in the affected limbs.

REMEDIES.

I shall first recommend to you the use of electricity. This I consider almost infallible. It is used by passing shocks through the affected parts; also use insolation. This frequently effects a cure without the aid of medicine; although medicine is always good—such as castor oil, and any mild cathartic. After you have commenced the use of electricity, give teas, made of life root and angelica; and if fever runs high, give fever solution. Also give tea made of winter's bark, burdock seeds and black cohosh. Sometimes bleeding and blistering is good; also cooling ointment is good. But you must keep the patient where the cold air does not strike him, and make constant use of teas of a cooling kind.

Above all things use the electricity, for I know from experience, it is the best thing known and in use, for this complaint. It is worthy of a high place among the remedies for this afflicting disease, and should be used by every physician in our land. But it is neglected; and the reason that I assign for it is, that it requires more work than they like to perform.

GOUT.

SYMPTOMS.

Pain in the joints; sometimes it begins in the great toe, ancles, legs, hands and feet; in short, it is subject to all the small joints, returning at intervals. Previous to the attack the functions of

the stomach are much disturbed, with dejection of spirits, coldness and numbness of the extremities, cramp, &c. The attack comes on about midnight; subsides in the morning; patient falls asleep and when he awakes, finds his limbs badly swollen, but apparently comfortable till in the night again, when his distress returns, but goes off in the morning.

The pain during the paroxysms imitates almost every species of torture. This is regular gout, for which much may be done to very little purpose. Lambskin slippers and gloves with the wool turned inwards, and worn constantly, may be of use; and a regular life must always be observed. Use Welch liniment; bathe the joints in strong laudanum made hot. Wrap the affected limb or joint in flannel, and keep it constantly wet with the hot laudanum. Make constant use of cooling, cleansing teas; such as will cleanse the blood and give tone to the organs of life. Likewise use the frog ointment. But the *preventative* is better than the *cure*, therefore I would recommend to all, the *sure* preventative of regular and temperate habits.

A TONIC GOUT.

Is when in a gouty patient there is all the symptoms, except the pain and inflammation in the joints, viz: Nausea, vomiting, palpitation of the heart, giddiness, low spirits, and other nervous affections.

TREATMENT.

Avoid all the causes of debility; moderate exercise, animal food, good wine bitters, wearing flannel, blisters on the extremities, &c. is good.

Misplaced Gout—Is when the inflammation first, instead of the great toe, takes hold of some vital part; as the lungs, heart, stomach, &c.; for which in strong constitutions treat as in pleurisy; in weak ones, as for a tonic gout.

DIABETES.

The diabetes is a frequent and excessive discharge of urine. It is seldom to be met with among young people, but often attacks persons in the decline of life, especially those who follow the more violent employments, or have been hard drinkers in their youth.

A diabetes may proceed from too great a laxity of the organs which secrete the urine; from something that stimulates the kidneys too much, or from a thin, dissolved state of the blood, which makes too great a quantity of it run off by the urinary passages. It may be the effect of acute diseases, or of strong diuretic medicines.

In a diabetes, the urine generally exceeds in quantity all the liquid food which the patient takes. It is thin and pale, of a sweetish taste, and an agreeable smell. The patient has a continual thirst, with some degree of fever; his mouth is dry, and he spits frequently a frothy spittle; the strength fails, the appetite decays and the flesh wastes away; till the patient is reduced to skin and bones. There is a heat of the bowels; and frequently the loins, testicles and feet are swelled.

This disease may generally be cured at the beginning; but after it has continued long, the cure becomes very difficult. In drunkards and very old people, a perfect cure is not to be expected.

Every thing that stimulates urinary passages, or tends to relax the habit must be avoided. For this reason the patient should live chiefly on solid food, his thirst may be quenched with acids, as lemon juice, sorrel, or vinegar. If any drink be used, it may be lime water, in which a due portion of oak bark has been macerated; the white decoction, with isinglass dissolved in it, is also a very proper drink.

The patient should take moderate exercise, but avoid fatigue. A warm dry air, the use of the flesh-brush, and every thing that promotes perspiration, is of service. For this reason the patient ought to wear flannel next to his skin; a large strengthening plaster

may be applied to the back, or what will answer better, a great part of the body may be wrapped in plasters.

Gentle purges, if the patient be not too much weakened by the disease, have a good effect. They may consist of rhubarb, cardamom seed, or any other spices, infused in wine, and may be taken in such quantity as to keep the body gently open.

The patient next must have recourse to astringents and corroborants, half a drachm of powder made of equal parts of alum and the inspissated juice, commonly called terrajaponica, may be taken four times a day, or oftener if the stomach will bear it.

The alum must first be melted in a crucible, afterwards they may both be pounded together. Along with every dose of this powder, the patient may take a tea cupful of the tincture of roses.

If the patient's stomach cannot bear the alum in substance, you may make whey of it, and take it in doses of a teacup full three or four times a day. The alum whey is prepared by boiling two quarts of milk over a slow fire, with three drachms of alum, until the curd separates.

Opiates are of service in this disease, even if the patient rests well; they take off spasm and irritation, and at the same time lessen the force of the circulation. Ten or twelve drops of liquid laudanum may be taken in a cup of the patient's drink, three or four times a day.

The best corroborants which we know, are the peruvian bark and wine. A drachm of the bark may be taken in a glass of port or current wine three times a day. The medicine will be both more efficacious and less disagreeable, if fifteen or twenty drops of the acid elixer of vitriol be added to each dose. Such as cannot take the bark in substance may use the decoction, mixed with an equal quantity of wine and taken as above.

I have made frequent use of the harvest flowers and the uviursa and have found them very beneficial in this complaint. Or drink wine boiled with ginger, as much, and as often as your strength will bear.

SUPPRESSION OF URINE.

CAUSES AND TREATMENT.

A stoppage of urine may proceed from various causes, as an inflammation of the kidneys or bladder, small stones or gravel lodging in the urinary passages, hard fœces lying in the rectum, pregnancy, a spasm or contraction of the neck of the bladder, &c.

If the obstructions proceed from inflammation of the kidneys or bladder, the treatment will be found before described. Very small gravel, by getting down into the neck of the bladder, irritate it so as to produce spasms: or the gravel may be so large as totally to obstruct the passages: when either of these is the case, the cleavers tea, with ten drops of oil of pumpkin seed every two hours till relief is obtained, and the passage opened. In addition to these, a large poultice of bruised onions must be laid over the lower part of the abdomen. These will open the passage, relax the spasms, and give seedy relief. If hard fœces, in the rectum produces the suppression, they must be removed by clysters. If there is a stricture of the urethra from disease, general remedies must be taken to remove the cause.

Sometimes an obstruction of urine comes on in old age or in old people, who have labored hard, or from strains, which seems to proceed from a thickening or enlargement of the prostrate gland at the neck of the bladder, or a thickening of the urethra, from a humor settling upon that part. This must be relieved, if at all, by cleansing syrups, and the above mentioned relaxing diuretics.

In all inflammatory or spasmodic obstructions, fomentations are beneficial. These may consist of decoctions of mild vegetables, as marsh-mallows, camomile, oats, hops, &c. Cloths dipped in these may be applied to the part; or a bladder filled with the warm decoction may be laid on; or the warm herbs may be put in a flannel bag and laid on. If the inflammation is great, use "anodyne wash."

In all obstructions of urine, the body ought always to be kept open by warm clysters. The food must be light and mucilaginous, as weak broths, decoctions of marsh-mallows, cumfrey, &c.

GRAVEL AND STONE.

These diseases are the consequences of a peculiar disposition of the fluids, and more particularly the secretion of the kidneys, to form a calculous matter, and have been supposed to be owing to the presence of an acid principle in them, called the uric acid. This is accompanied with a coldness and laxity of the parts, generally.

When small stones are lodged in the kidneys, or discharged along with the urine, the patient is said to be afflicted with the gravel. If one of these stones happens to make a lodgment in the bladder for some time, it accumulates fresh matter, and at length becomes too large to pass off with the urine. In this case the patient is said to have the stone.

CAUSES.

The stone or gravel may be occasioned by high living, or the use of astringent wines; drinking hard water; a sedentary life; lying too hot, soft, or too much on the back; the constant use of water impregnated with earthy or stony particles. It may likewise proceed from an hereditary disposition. Persons in the decline of life, and those who have been much afflicted with gout or rheumatism, are most liable to it.

SYMPTOMS.

Small stones or gravel in the kidneys occasion fixed pains in the loins, sickness, vomiting, and sometimes bloody urine, and not unfrequently, a slight suppression of urine. When the stone descends into the *ureter*, and is too large to pass along with ease,

all the above symptoms are increased; the pain extends towards the bladder; the thigh and leg of the affected side are benumbed; the testicles are drawn upwards, and the urine is obstructed.

A stone in the bladder is known from the pain at the time, as well as before and after making water; the frequent inclination to void urine: the urine coming away by drops, or stopping suddenly when it is running in a full stream; by a violent pain in the bladder upon motion, especially on horseback, or in a carriage on a rough road; or from a white, thick, copious, fetid, mucous sediment in the urine; from an itching at the top of the penis; from bloody urine; from an inclination to go to stool during the discharge of urine; the patient passing his urine more easily when lying than in an erect posture; from sharp pain in passing the last drops of urine, from the gravel being drawn into the mouth of the passage.

CURE.

Persons affected with the gravel or stone should avoid all aliments of a heating or windy nature, as salt meats, sour fruits, &c. They may use for diet, such things as tend to promote the urine and keep the body open, as asparagus, lettuce, parsley, turnips, carrots and radishes; also onions, leeks and celery, which are reckoned medicinal; together with mucilaginous vegetables, as parsley, marsh-mallows, liquorice, flaxseed and slippery elm.

To prevent a return, equal quantities of lime-water and butter-milk should be drank at meals, and constantly to the quantity of a quart a day. Use also queen of the meadow, clivas, life root, &c. in teas. This will dissolve the stone, and leave the patient free.

BLOODY URINE.

This is a discharge of blood from the vessels of the kidneys or bladder, occasioned from their being either enlarged, broken or eroded. It is more or less dangerous according to the cause.

When pure blood is voided suddenly, without interruption and without pain, it proceeds from the kidneys; but if the blood be in small quantity, of a dark color, and emitted with heat and pain about the bottom of the belly, it proceeds from the bladder. When bloody urine is occasioned by a rough stone descending from the kidneys to the bladder, which wound the ureter, it is attended with a sharp pain in the back, and difficulty of making water. If the coats of the bladder are hurt by a stone, and the bloody urine follows, it is attended with most acute pain and the previous stoppage of urine.

Bloody urine may also be occasioned by falls, blows, hard riding, or any violent motion. It may also proceed from ulcers of the bladder, from chordee, and sharp diuretic medicines, particularly cantharides.

If mixed with purulent matter, it shews an ulcer somewhere in the urinary passages. Sometimes this discharge proceeds from excess of blood, in which case it is salutary. If the disease, however, be great, it may waste the patient's strength, and occasion dropsy, or a consumption.

The treatment of this disorder must be directed to the cause. When owing to the stone, we must endeavor to remove that. If attended with symptoms of inflammation, mild purgatives and cooling diuretics, as cleavers, are proper. If it proceeds from a dissolved state of the blood, it is commonly the symptom of some malignant disease, as putrid fever, small pox, &c.; in which case warming and bracing tonics are required, together with wine, acids, &c. If from an ulcer in the kidneys, cleansing and healing medicines, as the *anti mercurial teas*; or tincture of lobelia; queen of the meadow; "balsam of life," balsam of fir; marsh-mallows, liquorice, &c.

If the case be urgent, gentle astringents may be ventured on, as lime-water, rose-water, sweet-bugle; or if necessary, giving tonics at the same time.

Also make teas of the leaves of peach trees and use as constant

drink, and harvest flower is also one of the best of articles; red cobush berries infused in water, is also good to drink, in this complaint.

ASTHMA.

Asthma is a spasmodic disease of the lungs, coming on by paroxysms. Persons in the decline of life are most liable to it. It is distinguished into the moist and dry: the former is attended with expectoration, or spitting; but in the latter the patient seldom spits, unless sometimes a little tough phlegm, by mere force of coughing. Asthma is either periodical or continual.

The cause of a continued asthma is a compression of the lungs by a serum or dropsy in the breast, empyema, corpulence, adhesion of the lungs to the pleura: in a word, by whatever compresses the lungs, impedes the circulation of the blood through them, or prevents their being duly expanded by the air.

The cause of a periodical asthma is a compression of the vessels and air cells of the lungs, owing to slow fumes, or an acid gas, arising from fermentation in a foul stomach, and which impedes the course of the nervous influence into the lungs, leaving an insufficiency of vital heat to distend the vessels to their usual extent. This may come from a bad conformation of the chest, straitening the lungs too much; also exposure to cold easterly winds, sudden change of air, foggy weather, &c. The immediate cause of the asthma is a spasmodic constriction, or irritation of the organs of respiration.

SYMPTOMS.

An asthma is known by a quick, laborious breathing, which is generally performed with a kind of wheezing noise. Sometimes the difficulty of breathing is so great that the patient is obliged to

keep in an erect posture, night as well as day, otherwise he is in danger of being suffocated. A fit of the asthma generally comes on after exposure to cold, easterly winds, damps, fogs, wet feet, eating indigestible food, &c.

The paroxysm is commonly ushered in with listlessness, want of sleep; hoarseness, a cough, belching of wind, heaviness about the breast, and difficulty of breathing. To these succeed fever, heat, pain in the head, sickness, nausea, great oppression of the breast, palpitation of the heart, a weak, and sometimes intermitting pulse, an involuntary flow of tears, bilious vomiting, &c. All these symptoms grow worse towards night; the patient is easier when up than in bed, and is very desirous of cool air.

REGIMEN.

The food ought to be easy of digestion, solid, and nourishing—all windy things are to be avoided. The body should be kept warm, and particularly the feet, which should be kept dry, and perspiration promoted. Nothing is of so great importance in the asthma as pure and moderately warm air. Asthmatic people can seldom bear either the close, heavy air of a large town, or the sharp keen atmosphere of a bleak hilly country: a medium, therefore, between these is to be chosen.

Exercise is likewise of very great importance in the asthma, as it promotes the digestion, greatly assists in the preparation of the blood, and helps to prevent the accumulation of the serum in the chest. The blood of asthmatic persons is seldom duly prepared, lacking oxygen, owing to the proper action of the lungs being impeded.

REMEDIES.

During the paroxysm the body is generally bound; a purging clyster, with a solution of assafœtida, ought therefore to be administered, and if there be occasion, repeat it. The patient's feet

and legs ought to be immersed in warm water, and afterwards rubbed with a warm hand or dry cloth. If there be a violent spasm about the breast or stomach, warm fomentations, or bladders filled with warm milk and water, may be applied to the part affected, and warm cataplasms to the soles of the feet. The patient must drink freely of diluting liquors, and may take a teaspoon full of the tincture of castor and saffron mixed together in a cup of valerian tea, twice or thrice a day. Other anti-spasmodics, as foxglove, stramonium tincture, lady-slipper, skunk-cabbage, &c. may be given. Vomits must not be neglected as they often snatch the patient, as it were, from the jaws of death; among these lobelia is peculiarly serviceable, cutting up the phlegm, and giving instant relief. Blood root is also good.

In the moist asthma, such things as promote expectoration ought to be used. Mucilaginous, anti-spasmodic, warming and stimulating medicines, are proper. Several excellent preparations for this purpose will be found among the recipes.

A combination of foxglove and opium has proved highly advantageous in spasmodic asthma, when given in the dose of half a grain of each every four or five hours. In the moist asthma, wild turnip with foxglove might be more advisable.

For the convulsive or nervous asthma, anti-spasmodics and tonics are the most proper medicines. The green drops, in lime water, in proportion of a wine glass to a bottle, and a tablespoon full taken three times a day, will rarely fail to relieve. Every thing that is bracing to the nerves or takes off the spasms, may be of use in a nervous asthma. The skunk-cabbage is very appropriate to this disease. Sometimes it is necessary to apply a blister to the chest, and hen-bane dried and smoked often affords a great relief. A very strong infusion of roasted coffee is said to give ease in an asthmatic paroxysm.

The following tincture I can recommend as excellent for the asthma:—Take half a pound of quick lime, slack it by turning on two quarts of hot water, and while it is slacking and boiling stir in

two spoons full of tar, and stir them well together, and let it stand and settle. Take half a pound of wild turnip, half a pound of milk weed roots, fresh, and a small handfull of lobelia; bruise them and infuse in two quarts of wine; place the whole in a sand heat twenty-four hours, then press and strain, and add to it the lime water, and bottle it for use. Dose, a wine glass three times a day. This is also good in coughs, consumptions, hysterics, cramps, &c.

Take one third gin, one third molasses, one third sweet oil, or oil of almonds, shake them well together, and take one teaspoon full once in three hours, this is an excellent remedy in this complaint.

Another.—Take one gill of sunflower seeds, pound them fine, and put them in a pint of gin; this is also good for the asthma. Dose, for an adult half a wine glass; for a child ten years old, one teaspoon full, and so on in proportion.

Another.—Take one tablespoon full of skunk-cabbage, pulverized, and one spoon full of the leaves of hyssop; half a gill of white nettle seeds. These are to be steeped in one pint of water until the strength is out, strain, and add one large spoon full of the juice of garlies, and put the above articles into one gill of gin and add four ounces of honey to preserve it. Take for a dose half a wine glass morning and evening.

BURNS AND SCALDS.

Take two thirds of sweet oil, one third spirits of turpentine, apply this to the burns or scalds until the fire is out. If the burn is bad and produces inflammation or fever, apply a slippery elm poultice made fine and soft; or a poultice made of roasted onions and cattail flag roots pounded fine, are also good, and put sweet oil over it to prevent sticking. This is cooling and good to take out

inflammation. After the inflammation is subdued, make a salve of puff-ball and hog's lard, take equal parts well worked together, and apply it for a plaster; it never fails to cure.

POISON.

Every person ought in some measure, to be acquainted with the nature and cure of poisons. They are generally taken into the stomach unawares, and their effects are often so sudden and violent, as not to admit of delay. Happily indeed no great degree of medical knowledge, is herein necessary.

The patient should as soon as possible, after taking poison into the stomach, drink large quantities of new milk and sallad oil till he vomits; or warm water mixed with oil. Where no oil is to be had, butter may be melted and mixed with milk or water; fat broths are also proper, provided they can be got ready in time. These things are to be drank as long as the inclination to vomit continues.

Some have drank eight or ten quarts before the vomiting ceased, and it is never safe to leave off drinking, while one particle of the poison remains in the stomach.

These oily or fat substances not only promote vomiting, but also blunt the acrimony of the poison, and prevents its wounding the bowels. But if they should not make the patient vomit, a vomit must be given. If tormenting pains are felt in the lower part of the abdomen, there is reason to fear that the poison has got down to the intestines. Clyster of milk and oil, &c, must be very frequently thrown up, and the patient must drink emollient decoctions, of marsh-mallows, barley, oat meal, and the like. He must also take an infusion of senna and manna, or some other purgative.

Or, let one who is poisoned by arsenic, dissolve an ounce of salt of tartar in a pint of water and drink every quarter of an hour as much as he can, till he is well.

Let one who is poisoned by opium or laudanum, take thirty drops of elixer vitriol, every quarter of an hour, till the drowsiness or wildness ceases.

Or, let him take a vomit of ipicac.

Or, let him drink vinegar.

Or, take a spoon full of lemon juice every half hour.

Let one who is poisoned with mercury sublimate, dissolve an ounce of salt of tartar in a gallon of water and drink largely of it. This will destroy the force of the poison if it is used soon.

After the poison is evacuated, the patient ought, for some time to live on such things as are of a healing, cooling quality; to abstain from flesh, and all strong liquors; his diet should be milk, broth, gruel, puddings, &c.; his drink should be barley coffee, linseed tea, or any other mucilaginous vegetables. After the sickness at the stomach has ceased, take a solution made of lobelia one grain, to one teaspoon full of wild turnip; pour on one teacup full of boiling water, sweetened with loaf sugar. Take one teaspoon full once in four or five hours.

To work the poison out of the blood, take green ozier made into a tea, for a constant drink. Moose misse and sweet fern are also excellent articles.

BITE OF A RATTLE-SNAKE.

Apply bruised garlies to the part bitten, and rub the wound immediately with common oil, and salt and water, or take the stalks and leaves of rattle-snake root, sometimes called rattle-snake's master, and bruise them and apply to the part bitten; and drink a tea made of the roots. Above the part bitten, bind on the pounded leaves of black ash, or bruise the inner bark which is still better, and apply.

Take gun powder and stir it into new milk until it is thick, spread it on a cloth and apply it. The patient should drink no cold water for twelve hours.

Or, take plantain and hoarhound roots and branches together, bruse them and squeeze out the juice, of which give as soon as possible one large spoon full. If in an hour the patient finds no relief, repeat the dose. To the part bitten, apply at the same time a leaf of good tobacco moistened with rum. Or the bruised herbs. This is said never to fail.

Or, take the leaves of common plantain, put them in boiling water for a short time, and then apply them to the part bitten, at the same time use a tea made of the same plant, together with a little virginia snake-root.

A VENOMOUS STING.

Apply the juice of honeysuckle leaves.

Or, a poultice of bruised plantain and honey.

Or, take inwardly one drachm of black currant leaves, powdered, it is an excellent counter-poison.

For the sting of a bee, apply honey or Scotch snuff.

For the sting of a wasp, rub the part with the bruised leaves of rue; or apply bruised onions or garlicks, molasses, or sweet oil.

For a sting in the gullet, beat well together some honey and oil, with a little vinegar, swallow a spoon full every minute till ease is obtained.

For the sting of any bee, hold the part that is stung over the steam of hot water for a few minutes, then apply, some clean mud, first warmed a little; this will stop the smart and prevent the swelling.

Another.—Wash the part that is stung in salt and water, made very strong. Garden celandine, bruised and applied, is also an excellent remedy.

HYDROPHOBIA.

When a person is bitten by a mad dog, he should immediately scrape the wound well, and dress it with a solution of salt in wa-

ter; put a pound of salt into a quart of water, squeeze, bathe and wash the wound for an hour; then bind some salt on the wound for twelve hours.

Or, use a pickle made with vinegar and salt, and take vinegar freely either in food or drink.

Or, take some clean mud spread on a cloth and bind it on to the part bitten; change it as often as it becomes warm.

The medicines recommended in this alarming disease, to prevent its bad effects, are chiefly such as promote the different secretions, and anti-spasmodics. Take of ash colored ground liverwort, cleansed, dried, and powdered, half an ounce; black pepper powdered, a quarter of an ounce, and divide the powder into four doses; one of which must be taken every morning, fasting, for four mornings, in a pint of new milk, warm, and after two or three days repeat the same.

After taking the four above named doses, the patient must every morning fasting for a month, go into the cold bath a half a minute, all under water except his head. If the patient should feel cold and chilly for a long time after coming out of the cold bath, the water may be a little warmed. [See Dr. Mead.] This is said never to fail.

Take Virginia snake root in powder, half a drachm; gum assa-fœtida twelve grains; gum camphor seven grains; make these into pills with a little syrup of saffron.

Or, take of purified nitre, half an ounce; snake root powdered, two drachms; camphor, one drachm; rub them together in a mortar, and divide the whole into ten doses.

Or, take of rhubarb, blood root, castile soap, of each one ounce; and half an ounce of opium; of these make a strong decoction, and wash the affected part frequently, and at the same time take a little into the stomach.

Or, take of the leaves of rue picked from the stalk and bruised, *venice treacle* or mithridate, and scrapings of pewter, of each four ounces; boil these together in two quarts of ale, till one pint

is consumed; keep it in a bottle close stopped. Nine days after the bite, take of it nine spoons full, seven mornings in succession and apply some of the ingredients to the part bitten. It is said to be infallible.

MEASLES.

SYMPTOMS.

Cough, hoarseness, difficulty of breathing, sneezing, sense of weight in the head, nausea or vomiting, drowsiness, dullness of the eyes, and flow of hot tears running from the nose, itching of the face.

On the fourth day, small red pimples appear, first on the face and from thence spreading over the whole body; the pimples hardly elevated above the skin, but by the touch is found to be a little prominent. On the fifth or sixth day they turn brown, and disappear with the peeling off of the scarf skin. A diarrhoea comes on frequently with the turning of the measles.

TREATMENT.

Abstain from animal food, light vegetable diet, a moderately cool room, temperature to be regulated by the patient's feelings, carefully guarding against sudden changes. Saline purgatives: solution of cream of tartar, sorrel tea, sweating with warm herb teas.

If the symptoms run high, with pleuritic symptoms, bleed and blister the chest. If the eruption suddenly recedes, put the feet in warm water; and while lying in bed, apply mustard paste to the breast and feet. Blister between the shoulders. Warm wine whey, with hartshorn, and a tea made of Virginia snake root, &c.

Hoarseness and cough may be palliated by bran tea, and flax

seed teas, after the fever abates. These symptoms may be relieved by oxymel of squills, and opium, and also blood root tincture. And if paleness or purple spots appear, with prostration of strength and other symptoms of typhus, treat as in typhus, with cordials, wines, bark and snake root.

The best treatment if fever appears is, fever solution, and if nausea, give saffron, and in all cases give black snake root and Virginia snake root teas, and when sick at the stomach give camphor gum dissolved in warm water; or hartshorn, say five drops of the hartshorn, at any time when faintness appears.

MUMPS.

In this disease there is a swelling of the paroted gland, which lies before the ear. It is an infectious disease, and begins with chillness succeeded by heat, frequent pulse, thirst and head ache. Very soon a small tumor can be discovered near the angle of the jaw, which presently increases so that not only the back part of the cheek, but the side of the neck becomes swelled, and the jaw stiff. The swelling gradually abates about the fourth or fifth day, and the patient soon gets well.

This is a very slight disease in general, and nothing more is required than great care that the patient does not take cold.

The part should be kept moderately warm, by means of a piece of flannel, the bowels kept regular, and the patient live on a vegetable diet.

CHOKING.

As soon as any person is observed to be choked, and more particularly children, the obstructing body should be felt for with the finger, at the top of the throat. 'Tis possible many times to re-

move it directly, and should we fail in this, the puking excited by the finger frequently removes the offending body. Food and foreign substances are sometimes lodged in the top of the windpipe, and produces immediate suffocation; help in this case must be afforded at the moment by introducing the finger.

Unless the offending body can be seen, any instrument is unsafe, except in the hands of a good surgeon. Presence of mind will enable any person to do much in all cases of casualty, and particularly in this, and the directions above are sufficient.

The finger, and vomiting which the finger is sure to produce, will do much more at the instant than is commonly thought.

FALLS.

The concussion or shock of a sudden fall from an eminence, is such as to leave the sufferer breathless, and there is often apparent death, though no destruction of parts has taken place. In this case the person should be turned to an easy posture of body, and the air freely admitted, or waved into his face. Should the breath not return the lungs should be filled as in cases of drowning. A cordial should be given, and the patient should not be bled; simply because he has fallen. Yet symptoms may require it, such as obstructed breathing. Bleeding is of essential service when the pulse rises, or pain and inflammation comes on.

In falls from fainting, the head should not be raised or persons crowd around; a little water sprinkled in the face is commonly sufficient, hartshorn, ether, lavender, &c. may be used.

THE EAR.

Inflammation of the ear is, for the most part, a local disease, without fever, but in some instances; the sufferings of the patient are very great, and the disease assumes a formidable appearance,

as stupor, delirium, fever convulsion, and soon a vital termination has been the consequence. Pain and inflammation of the ear may be produced by the causes of other inflammations, but much more readily by partial exposure to cold.

TREATMENT.

If there is no fever, apply a blister behind the ear, and warmth to the part; leeches, mullen leaves in warm milk and water.—When the pain is over the whole head, without fever, give cathartics, salts, with sweating medicines such as balm tea, boneset, &c. but when fever, delirium, stupor, and other urgent symptoms, use the remedies laid down for inflammation of the brain, excepting the cold local applications. Use also onions and mustard drafts to the feet.

RING-WORMS.

Ring-worms may be considered as very simple. You can apply a wash made as follows:—Take of white vitriol half a drachm; sugar of lead, eleven grains; soft water, three gills; mix well and wash the ring-worm three times a day. Gun powder wet with vinegar and rubbed on with the finger, is also good.

The juice of skoke root is also good, and will most generally effect a cure. Use also my salt rheum wash, and you will find that that alone, will cure in all cases of this kind. Some recommend red precipitate as infallible; but I think it is not as good as is recommended. You may try it if you please, but not from my recommendation.

PALSY.

Is a loss of the power of voluntary motion. It is distinguished from apoplexy, by its affecting certain parts of the body only; as one side, or the lower half of the body.

SYMPTOMS.

Previous to the attack there is universal torpor, giddiness, a sense of weight or uneasiness in the head; loss of memory, dulness of comprehension; a sensation as of something creeping on the body; pain, trembling, and a sense of coldness in the part about to be affected. Palsy, if not cured, is finally succeeded by one, two, or three shocks, and death.

TREATMENT.

In plethoric and robust habits bleeding will be proper, and the bowels should be kept loose by gentle physic for some time after the symptoms disappear. In weak and debilitated habits every thing that can have a tendency to stimulate the body, and rouse the nervous system into action should be employed. For this purpose, a table spoon full of horse radish scraped, or the same quantity of ground mustard seed, may be swallowed three or four times a day, or oftener.

The tincture of guaiacum, at the same time external stimulants must not be neglected; such as clysters; dry frictions over the palsied part with a flesh brush, or with flannel wet with oil of sassafras, volatile liniment, or tincture of cantharides. In plethoric habits the diet should be of the lightest kind possible; but in weak and debilitated constitutions, the food should be warm and strengthening; and the drink may be of the same nature, as port wine, mustard whey, ginger tea, or brandy and water. Give also, winter bark, angelica, burdock seeds, &c. These should be given in teas when the patient has fever, but when free from fever, give in spirits or port wine.

FELON.

Cure.—Take blue flag root and march turnip roots, a hand full of each, stewed in half a pint of hog's lard. Strain it off, add

four spoons full of tar, simmer them together and apply this to the felon until it breaks. Add bees wax and rosin to the ointment so as to form a salve to dress it with after it is broken. This is an infallible cure without losing the joint.

WHITE SWELLING.

A remarkable cure for a White Swelling about the joint.

Take one quart of sharp vinegar, and set it in a vessel upon embers until it is boiling hot; add to this one ounce of sugar of lead, and stir it until the lead is dissolved: then bathe the part affected for half an hour, as hot as the patient can bear it. Then with a long bandage dipped or wet with the vinegar, commence binding the part affected as hard as the patient can bear, until you get six inches below the joint. Then pin the bandage tight, and continue to wet it as fast as it dries. A hot steam will soon begin to arise from the joint. Continue wetting and tightening the bandage until it is all reduced and the patient is cured.

A gentleman living in the county of Madison, having a white swelling on his knee joint, that swelled to an enormous size, applied to many different physicians, who all informed him that he must either lose his limb or his life. Not being content to part with either of them, he finally concluded that they should both go together, rather than suffer amputation. He was in this condition, when a gentleman not professing any skill in physic or surgery, and unsolicited, undertook the cure, and by continued perseverance with the vinegar, lead and bandage, the infirm man was able to walk in three days, and shortly was entirely well.

The author had the satisfaction of hearing this account from the patient himself, who was then sound and well. "*Burlingame.*"

My plain is, to apply a wash made of crocas martus and white vitriol and the anti-plogistic plaster. And give teas made of dwarf maple and mountain ash, or marsh-missa.

EPILEPTIC FITS.

This is the most alarming disease that ever fell upon the human sufferer. It most generally attacks the patient in the early part of life, while the nerves, muscles, tendons and fibres, are lax and weak. If the physician does not manage and control this disease in its early stages, it is obstinate and difficult to be overcome, and this difficulty is increased by the duration of the disease. The nerves become more rigid as the vital strength increases, and as they advance in years, the paroxysms will be harder.

In this stage of the disease, if the patient passes over two or three weeks without having a fit, the nervous system begins to recover its tone; the vital energies perform their natural functions, and he begins to feel somewhat as he used to do in health, anticipating a release from long bondage and confinement, that he may once more be restored to the pleasing circle of friends who have long watched over him; and to the sweet amusements of life of which he had long been deprived. But if your author could stop here, and have the picture complete, he would be gratified beyond expression. But alas! not always so. Perhaps when the patient feels the most perfect health, and retires to bed calm and quiet, amidst the sweet slumbers of the night, a paroxysm will attack him instantaneously—seize on every nerve of the body with cramp and convulsions. The mother starts from her watchful pillow—the household are all alarmed, to see a poor brother or sister deprived of reason—struggling in convulsions—gasping for breath, without being able to breathe, until nature is exhausted—when the spasms unloose their iron grasp.

The patient now sinks into a sound sleep for about half an hour, and then begins to moan and wakes up with languid limbs and trembling nerves.

Where is the man, or where is the woman that has not pity for such a sufferer, who has lived in a christian land; or where is the hardened bosom that would not swell with pity, to see humanity suffer thus.

CAUSES.

Young children are very subject to fits whilst the nervous system is lax and weak, and somewhat irritable. They sometimes have a shock of this complaint when teething, and also when they are troubled with worms and have considerable fever, or when severe colds affect the lungs with inflammation. Large portions of laudanum or distilled oils very often induce a paroxysm of this complaint.

I was once passing by a house in the vicinity of my acquaintance, when I was suddenly called to by a woman, much frightened, saying her child was dying. I entered and found the child in a severe fit by having taken a large portion of laudanum. I called for some vinegar of which I gave him, as soon as he was able to swallow, a teaspoon full every five minutes, until I had administered four. In half an hour he was out of doors diverting himself with his own amusements.

At another place, where I stayed over night, a young lady was attacked in the evening with a severe cholic. In hopes of getting rid of it without making it known to the family, she took a teaspoon full of tansey oil; a small girl saw her take it. Within five minutes she was taken with a hard fit: as soon as the spasms gave way, I gave her an emetic which brought up the oil, and she recovered without taking any more medicine.

I have known cases of fits from spinal irritation, or an affection of the back bone. Frequently they proceed from an affection of the brain, in consequence of inflammation; blows, violent passions; too hearty food, in the convalescent stage of fevers, taken immediately before going to bed, also produce this disease.

This affection in its chronic form, is commonly called *falling sickness*—the paroxysms are longer and oftener repeated—frequently from ten to fifteen in a day; the patient falls down wherever the fits overtake him. This stage of the complaint always

proves fatal. That the Lord may save the people from this terrible disease, is the hearty wish of your unworthy writer.

SYMPTOMS.

Epileptic fits are attended with a dull head ache—eyes weak—often a buzzing in the ears—palpitation of the heart—soreness of the eyeballs—dizziness of the head—pale countenance—great loss of memory—intellect much impaired, and a want of appetite. After the shock of a fit, the eyes become more dim, with frequent deep inspirations and a coated, white tongue.

In epilepsy, the paroxysms, are apt to change from severe to mid fits, so that the patients retain their senses. In these cases, both arms, perhaps, will be suddenly thrown up, with a squeak like a convulsive inspiration; or the patient will arise and walk about the house, as if he was perfectly amazed, with a kind of moan, indicative of extreme distress—but soon recover to himself again.

These are the changes and forms of the epileptic fits as near as I can pen them down. The many changes and long continuation of this disease are very discouraging to the patient, and also to the family to which he belongs. The parents look forward with great anxiety to that day when their child shall be freed from this terrible malady, and no one can know the watchful care and tenderness they have for him, but themselves. They have earnestly looked for aid from the best physicians; but alas! some cases have baffled all their skill, in this difficult and serious complaint.

Brother practitioners, let me appeal to you once more: Because the disease is obstinate and hard to control, shall we slide over it or excuse ourselves from treating it with the greatest care and attention? No brother, not so. Let us rather consult the records of wisdom and skill, and devise some means, if possible, to extricate a fellow being from such suffering as this. Let us call up the causes and symptoms from first to last—inquire into the con-

stitution and age of the patient—rehearse over ourselves once more—examine the dissertations of our brethren, who have left the stage, and see if there be not some remedy. I have a receipt, taken from a French author on epilepsy, which you will find in this work, and which is much celebrated.

REMEDIES.

If epilepsy has been of long standing, and the patients advanced to eighteen or twenty years of age, they will bear more powerful medicine than those who are young. It is generally necessary to premise a mild emetic and cathartic.

A syrup of mustard has an excellent effect in many cases—it is prepared as follows:—Take one large spoon full of good pulverized mustard, put it into a bottle and add two thirds of a pint of water and one third of a pt. of spirits; sweeten well with sugar; in a few days it will be fit for use. Dose, two or three table spoons full a day.

Take one gill of pulverized rue, and add a quart of spirits. Take three table spoons full a day. Castor and valerian, made into a tea is a very good remedy.

The French medicine, before spoken of, is prepared as follows: Take once ounce of gum myrrh, one ounce of sulphur, one gill of oil of almonds, put these three articles into an iron kettle, set it on some coals, boil it slowly until it begins to be red, and when it is about the color of brandy, take it from the fire and add half a pint of spirits of turpentine, and it is fit for use. Dose, six drops twice a day, for an adult.

The following may be alternated with some of the above:—Take one ounce of skunk cabbage; one ounce of garlic, dried, and both finely pulverized; put the powder in a quart bottle and fill two thirds with water and one third with spirits, and add four ounces of loaf sugar. Take half a wine glass three times a day.

For the squally fits, those that are light, with partial spasms; motherwort roots and pennyroyal steeped together and taken freely, will generally quiet them.

Steep a table spoon full of fit-root in half a pint of boiling water, to be taken in the course of the day. Oil of amber, ether, oil of turpentine, &c., are good remedies in epilepsy.

BILIOUS COLIC.

The bilious colic is attended with acute pain in the region of the abdomen; great thirst and costiveness. The patient vomits a hot, bitter and yellow colored bile, which being discharged seems to afford relief, but is quickly followed by the same violent pain as before. The vomiting sometimes increases until it becomes almost continual, and the proper motion of the intestines so far inverted as to produce all the symptoms of an impending *Iliac passion*.

TREATMENT.

First, sometimes it is proper to give a gentle emetic so as to free the stomach from bilious matter. The pain commences in the bowels and inclines to rise upwards; when it gets above the region of the stomach its bilious contents are thrown up. As soon as the patient falls back on the bed, let him take two teaspoons full of rhubarb and soda, or other alkali, which will have a tendency to prevent sickness of the stomach, restore tone to the bowels, and assist the operation of physic.

The interval between pains is the best and only time for the physician to work to advantage. If possible, get an operation of physic, for that will tell the story in this complaint. Such purgative medicines as will restore tone to the bowels and digestive or-

gans, and if possible, relieve pain, should be selected. Culver's physic is a great medicine in this complaint. Sweet and castor oils may be used when they can be retained. Rhubarb, calcined magnesia, and alkalies, with carminatives, as fennel, anise, angelica, masterwort and sweet flag, are highly useful. Let these articles be pulverized fine, and to one ounce of the powder add a quart of water. With these mixtures you will be very likely to kill two birds with one stone, by restoring tone to the bowels, and procuring a free cathartic operation.

If the patient's bowels become tumid and hard, apply blisters. Boiled oats, roasted onions and carrot poultice are all good external applications in this complaint.

CHOLERA MORBUS.

Cholera morbus, is a violent purging and vomiting of bilious matter, attended with gripes, sickness, and a constant desire to go to stool. It attacks suddenly, and is most common in autumn.—This disease proves quickly fatal if proper means are not used in due time for removing it. In warm climates it is met with in all seasons of the year, but in temperate climates it is apt to prevail most during the autumnal months.

CAUSES.

It frequently happens in consequence of a bilious habit; a loss of tone of the digestive organs. Also by eating unripe fruits, as green apples, cherries, blackberries; large draughts of cold water when in a perspiration, and retiring to bed soon after eating hearty suppers, are very common causes.

Before the attack there is a general weakness of the whole body, a total loss of appetite; sour belchings; severe pain in the lower

bowels, with gripings; nausea at the stomach, attended with purging and vomiting: also great thirst; quick and unequal pulse, which is apt to sink as the disease advances, until it becomes imperceptible with cold extremities. Hard times for the poor patient.

REMEDIES.

Mild laxatives, suitable medicine to restore tone to the stomach and bowels; chicken broth, wild animal broth and alkalies. Take three teaspoons full of rhubarb and steep it in half a pint of boiling water, stir it a few minutes, let it settle, turn it off and add one grain of soda and four teaspoons full of loaf sugar. Let the patient take a teaspoon full of this every fifteen minutes. This is a worthy remedy in this disease. After the complaint abates, take some corn coffee, barley coffee, milk porridge, water porridge, rice, indian pudding, arrow root, brandy sling made thick with loaf sugar, &c.

DIARRHŒA.

Sometimes this disease is attended with bilious symptoms; tongue coated white, and tinged with yellow. It is most apt to prevail in the latter part of summer, from which it takes its name of *summer complaint*. There are different stages in this disease, which require different modes of treatment.

CAUSES.

Various are the causes of this complaint. Drinking water in the summer, when the wells are low, is very apt to introduce it, especially in dry seasons. The evaporation of water from the small ponds, swamps, and mill-dams, leaves large quantities of floodwood covered with slime, from which a noxious vapor soon arises and mingles with the atmosphere. This with the effluvia

from decaying vegetables, poisons the oxygen of the air, and we, like fish shut up in dead lakes, deprived of the natural current of the stream, are under the necessity of inhaling it, and are thereby predisposed to putrid and malignant fevers, bilious diarrhœa, &c.

SYMPTOMS.

Pains in the bowels; coat on the tongue; some fever, with chills; nausea at the stomach; an urgency to stool and an increase of pain. Now you have an opportunity to try the American Remedies.

TREATMENT.

Cleanse the stomach and bowels with castor oil and rhubarb; put a teaspoon full of white root into a two ounce vial, fill it with paregoric and give a portion now and then, to relieve pain and procure sleep. Make a tea of spikenard, comfrey and cranesbill, a valuable medicine. Sweet fern and hog-brake is good. These teas are to be sweetened with loaf sugar and used.

DYSENTERY.

This disease is the most malignant of those that affect the alimentary canal. In the old revolutionary war, it was called the *camp distemper*, and carried off thousands of those who guarded our frontiers. Dysentery frequently comes on with chills and fever, which is of the remittent bilious form and is accompanied by a congested state of the liver, a suspended secretion of bile and obstinate costiveness. At other times it is attended with flatulence or wind of the bowels; severe spring pains; frequent inclination to go to stool, with small fetid evacuations of slime and blood, or a fluid resembling beef brine, are characteristic symptoms of dysentery. It is attended with loss of appetite, nausea and vom-

iting. The pulse is small and frequent, with an intolerable bearing down of the parts; a sense of burning heat, extreme thirst, and dry skin. In bad cases, hiccup, livid spots on the breast and extreme giddiness occur with great exhaustion, and not unfrequently a fatal termination.

Causes.—Excessive fatigue; poor provisions; lying on damp ground; exposure to night dews; want of sleep; uncleanness, &c.

TREATMENT.

Cleanse the stomach and bowels with mild emetics and cathartics, such as ipicac, castor oil, manna, &c. *Solution* of black snake root given in such quantities as not to vomit, is very beneficial. Clysters of mutton broth, arrow-root, or starch with fifty drops of laudanum, frequently repeated, have a good effect in this disease. Fresh butter melted is also a worthy remedy. In addition to these let the patient take, mucillaginous drinks, as slippery elm, sassafras twigs, gum Arabic, violets and flax seed tea, cumfrey, &c. The irritation is to be quieted by giving paregoric or laudanum.

When the violence of the symptoms, is subdued, balsam of copavia, white pine bark, cranes-bill, sweet fern, &c. have a good effect in restoring tone to the bowels. The diet should consist of chicken or mutton broth, rice, calve's foot jelly, milk porridge, pudding and molasses, toast, &c. As the strength increases, take a chicken's leg or a slice of boiled pork, with a glass of brandy well sweetened with loaf sugar; and if a soldier, you will see him turn his ear once more to hear the beat of the drum.

PILES.

There are two kinds of this complaint, the *common* and *blind* piles, so called. The former is a general weakness of the rectum,

a loss of tone of that organ, which settles down, out of its natural place, producing pain and disagreeable feelings. The blind piles are more difficult to manage, as well as more dangerous, and are frequently attended with profuse bleeding from the pile artery, and abscesses that are painful and troublesome. This disease is also attended with inflammation, severe itching, and often an eruption.

CAUSES.

This disease, like many others, proceeds from weakness, overdoing, heavy lifting, laborious exercise, inflammation of the bowels, diarrhœa, drastic purges, violent coughs, constipation, by suffocating in hot weather, sitting too near the fire, thereby producing an unnatural heat, &c. Be temperate in all things and you will be pretty likely to escape this complaint.

TREATMENT.

If costive, take mild purgative medicine, as castor oil, rheubarb and soda, say three teaspoons full of rheubarb put in a teacup, fill it with boiling water, stir, settle and turn off from the sediment; add as much soda as will lie on a shilling piece and eight teaspoons full of loaf sugar. Take four teaspoons full a day: a worthy medicine in this complaint. Sulphur, cream of tartar and molasses, magnesia, &c., are also beneficial. Bittersweet ointment, low archangel ointment, or wash, are good, externally used. Scabish, Liveforever, celandine, and sweet clover, make an elegant ointment for this complaint.

The above prescriptions alone, will, for the most part, cure this disease. The object is to restore tone to the diseased organ, abate pain, inflammation and irritation. Balsam of life, balsam of copavia, balsam of fir, &c., may be used as restoratives after the more urgent symptoms have been subdued.

Spikenard, comfrey, angelica, bittersweet, sassaparilla, liferoot, solomon seal, and brown snake root, formed into a syrup, are good in this disease.

RICKETS.

This disease generally attacks children between the ages of six months, and two years. It affects the bones of the head, back and shoulders. Sometimes the breast bone is prominent and most generally falls in, on the opposite side; the bones become soft and spongy, and somewhat protruded.

CAUSES.

Many are the causes whereby this disease falls upon childhood and infancy, and deprives them of their natural growth, and sometimes of their reason. One cause of rickets is diseased parents: mothers of a weak, relaxed habit, who neglect exercise, and live upon weak, watery diet; can neither be expected to bring forth strong, healthy children, nor nurse them afterwards; accordingly, we find the children of such women, generally die with the rickets.

This disease is often owing to the indiscretion of nurses, in allowing an infant to lie, or sit too much, or in not keeping it clean. Children being allowed to sit too long on the hard floor, when wet, are liable to this disease. Those children who are much dandled, and kept clean and sweet—carried in carriages, and permitted to lie on both sides during the night, seldom have this complaint.

SYMPTOMS.

General health of the child in a gradual decline; restless and fretful during the night; when asleep, sweats very freely, so that the drops stand on the forehead; veins blue in the temples and

hands; pale countenance; slight fever; eyes hollow and languid; poor appetite; troubled with costiveness, or a moderate diarrhoea; often an enlargement of the abdomen. The part on which the complaint locates, will be most prominent, with a gradual failure of the limbs. These symptoms are characteristic of this complaint.

TREATMENT.

To effect a cure in this disease, regulate the system and give warming, carminative, strengthening medicine. Make tea of life-root, oxbalm, yarrow and black snake root, to be taken for constant drink. For an external application, take one ounce of oxbalm, one ounce of black cohush, one ounce of camphor gum; all finely pulverised; put them into a pint of fourth proof brandy, with which wash the affected part twice a day until well. A cold water bath in the morning, has been held in high estimation for many years, in this complaint, and no doubt is a good remedy; but I have never been under the necessity of using it myself, having had ample success, in a more agreeable course.

I have made use of the following syrup, to good advantage in this affection. Take equal quantities of life-root, yarrow, spike-nard, solomon seal, buck horn, brake root, angelica, masterwort seeds and brown snake root, say a handful of each, to be put into an iron vessel, with four quarts of water; boil to one quart, strain, add half a pint of brandy and a pound of loaf sugar. A child of two years old may take a table spoon full three times a day, and those younger in proportion.

This is a very easy complaint to manage in its early stages, but when far advanced, it is difficult to conquer. This disease is very liable to be overlooked by physicians. Many children are fretful and puny when they are young, and the physician thinks they are of the cross class, and so, passes them over without any further investigation. But when you see any of the above named symptoms; veins blue, in the temples, &c., let the case be thoroughly investigated, and see whether this formidable disease is not beseging the constitution of your little patient.

WORMS.

This disease is more or less troublesome in every family.—There are three kinds of worms affecting the human system; the *tape*, the *pin*, and the *common* worm. Many children have fallen victims to these depredators. The tape worm is considered the most dangerous and the most difficult to be expelled; often producing extreme emaciation. The other two kinds are very unfair in their attacks, generally laying closest siege in time of sickness. They are also troublesome in the new and at full moon. It is a happy thing for the sufferer, that human wisdom can contrive so many things against them.

Bitter medicine is not agreeable to their tastes, but as there is a good deal of the real yankee about them, in their relish for molasses, we can generally coax them to take medicine enough in that article to destroy them.

SYMPTOMS.

The tape worm appears to be a very voracious animal; it rises up and devours the food almost as soon as it is taken into the stomach, thus preventing the formation of chyle, and inducing emaciation. The pin worm is about the size of a cambric needle, and most generally occupies the lower intestines, though they often find their way to the stomach. I have seen hundreds expelled at once by vomiting. They are a numerous tribe, and live on the mucus of the intestines, and gastric fluids of the stomach.

Nausea and vomiting; pale countenance; loss of strength, and a constant weakness at the pit of the stomach, are the most common symptoms.

The common worm is more voracious than the pin worm—they all lay hold at once, and devour, until they are prevented by some brisk purge, or bitter medicine, which obliges them to retreat from their place of rendezvous and havoc and retire to their place of abode. Sometimes warm applications to the abdomen, or the belly, if you wish to have it so, are beneficial.

REMEDIES.

Many are the prescribers and many the prescriptions for worms. The heads of families, most generally, know of some good remedies for their children in this complaint, such as sage, rue, wormwood, garlic spirits, turpentine, pink and senna, cowage and calomel, &c., and these medicines are, no doubt, beneficial.

I have made use of the following powder amongst my employers for many years, much to their satisfaction:—

Take one ounce of bog-bean, one ounce of poplar bark, one ounce of Indian hemp, one ounce of bitterroot, or American ipi-cac, one ounce of rue, four ounces of black alder berries or two ounces of the bark, of the root, and two ounces of sulphur. Let these articles be dried, finely pulverized, mixed and bottled for use. Dose, the eighth part of a teaspoon full for a child ten years old, half the quantity for a child five, and so in proportion to their age.

This valuable worm powder is an effectual remedy against all the above named worms, and safe as well as sure. Give this powder in molasses, three mornings in succession, at the new and full of the moon; but give your children this powder when well, as a preventive, and you will save them days of sickness and many hours of pain.

WHOOPIING COUGH.

This cough seldom affects adults, but often proves fatal to children. This cough is convulsive, and is named from its peculiar whoop-like sound. It is infectious.

Whatever hurts the digestion, obstructs the perspiration, or relaxes the solids, disposes to this disease, consequently its cure must depend upon cleansing and strengthening the stomach, bracing the solids, and at the same time, promoting perspiration and the different secretions.

The diet must be light, as chicken broth, and light spoon meats, panada, &c. The drink may be hyssop or pennyroyal tea, sweetened with honey, or wine whay, or, if the patient be weak, he may sometimes be allowed a little wine and loaf sugar.

One of the most effectual remedies in the whooping cough is, change of air. When the disease proves violent and the patient is in danger of suffocation by the cough, he ought to take warm loosening emetics, as blood root and ipicac. These may be repeated, if necessary. If the breathing is much choaked, five or six drops of rattle snake's oil on sugar, may be taken to loosen the phlegm. Emetics not only cleanse the stomach, which in this disease is generally loaded with tough phlegm, but they likewise promote perspiration and other secretions, and ought therefore to be repeated according to the obstinacy of the disease. They should not, however, be strong; but gentle vomits, frequently repeated, prove less dangerous and more beneficial than strong ones. After vomiting, alkalies may be given. The body ought to be kept gently open. For this purpose rhubarb in some of its preparations, or senna, &c., may be given.

Stimulating or anodyne applications will afford relief, and they may be rubbed along the spine, breast bone, or lower region of the stomach. Young children should be laid with their heads and shoulders raised, and be raised up when they cough, to guard against suffocation. The feet should be frequently bathed in lukewarm water. Also give the fever solutions, and a solution made of sumac berries or balls and loaf sugar.

HICKUP.

The hickup is a convulsive motion of the stomach and midriff.

The Cause.—Acrid irritating matter in the stomach, a morbid sensibility from disease, drunkenness, too great fullness, or the contrary. The diaphragm is affected by sympathy.

THE PROGNOSTICS.

Sneezing generally removes it; or a sudden fright, or fixing the eyes intensely on some object; or any thing that attracts the mind from it. Proceeding from wounds, profuse evacuations, in asthmas, or at the close of a malignant fever, it is always a dangerous, and often a deadly symptom.

Essence of peppermint on sugar will often relieve; alkalies, as sal æratus, with rhubarb; the cleavers infusion, cools and allays it. Anti-spasmodics, as valerian, lady slipper, castor, musk, &c. are proper. Emetics and cathartics are sometimes good if the stomach is foul, and hiccups are often indicative of a foul stomach.

CROUP, OR RATTLES.

This disease, generally of children, comes on imperceptibly with a hoarse, dry cough, and wheezing. At first the breathing sounds like blowing through muslin—then a rattling in the throat; soon it is like the croaking of a fowl when caught in the hand.

TREATMENT.

Emetics of ipicac, and oxymel of squills between; the former as often as every two hours, at least; warm bath often repeated; a blister between the shoulders; fever solution and blood root tincture, is the best medicine in this disease. Also soak the feet in warm water, and apply onion drafts to the feet; also roasted onions across the lungs, and give five or six drops of rattle-snakes oil, and if the oil cannot be obtained, use as a substitute ten drops of the juice of roasted onions, once in three or four hours; and give mucilaginous drink, such as elm and flax seed teas.

DYSPEPSIA.

SYMPTOMS.

The symptoms are a want of appetite, attended with nausea, sometimes vomiting, heartburn, costiveness, distension of the stomach, disordered state of the fluids of the stomach, uneasiness and pain upon taking food, sharp acid liquor frequently rising in the throat, frequent belching of wind, and passages of undigested food from the bowels.

CAUSES.

Occasional and habitual overloading of the stomach; drinking to excess; sedentary life, want of exercise and fresh air; excessive or long continued evacuations; a constant use of medicines which tend to weaken the digestive organs, such as glass of antimony, &c. Also cold, anxiety, and affections of the liver; the use of opium, and long loud speaking, are most common causes of dyspepsia. And those who live on rich food, and lead a lazy or idle life; who live in cities where the air is confined and impure, are most subject to this complaint.

TREATMENT.

If there is oppression at the stomach, with nausea, give an emetic of five grains of ipicac and five of emetic tartar dissolved in half a pint of warm water, add one grain of soda to the emetic. Follow this with a strong decoction of columbo, camomile, and orange peel, two table spoons full three times a day. The bowels must be kept open with gentle laxatives, such as the tincture of rhubarb and senna; mustard seed when there is flatulency and sourness of the stomach; also lime water in doses of a wine glass full three times a day.

When there is pain in the stomach, give chalk, magnesia and liquorice stick, and black snake root tea. And use frictions with

a flesh brush over the stomach. If these do not give relief, administer a dose of ether and laudanum; put a blister over the stomach, and relieve costiveness by injections or gentle laxitives, and when relief is obtained, endeavor to restore the tone of the stomach.

To relieve the costiveness which invariably attends this complaint, give medicines that gently stimulate the intestines to a more regular action. This is best effected by flour of sulphur, magnesia, or the chewing of the root of rhubarb every day.—Strong purgatives always weaken the digestive organs, and bowels, and in this complaint do more hurt than good.

If this disease arises from deficiency of bile, give strong tincture of aloes, or thrice a day give twenty grains of columbo, or the same quantity of ox gall, or any of the bitter medicines in common doses. Costiveness is most effectually obviated by observing the practice of going regularly to the temple of Clod Cina every morning, whether you want to or not.

DIET.

A diet of milk alone has cured some cases of dispepsia. It must always be new, and should be taken in the morning and at evening on an empty stomach, will be useful while employing other means. All known causes must be avoided, and the patient must rise early, and exercise in the morning air, cannot be too much recommended.

Exercise on horseback is of great service in this complaint, and persons who are afflicted with it, should obtain business that requires much riding.

A diet of bran bread made of wheat ground without bolting, is doubtless of the greatest importance in this disease.

Those who reside in the city and live on rich food will do well to go into the country and spend as much of their time as they are able in digging in the fresh earth. Gardening is good business in this complaint, but use the coarse bread constantly.

FEVER SORE.

CAUSES.

Going into water after fatigue and exercise, or when you are in a perspiration, which causes cold, and the patient will be seized with cold chills followed by fever. The chill and fever continue for some days and finally locate or settle on the thigh, leg, or arm.

First stage.—A peculiar obtuse, deep seated, aching pain, extremely distressing to the patient, and soon affecting the health to a remarkable degree. At length the part swells, and a tumor forms, possessing great hardness; the skin becomes red and extremely tender; there is an increase of heat and other symptoms of inflammation.

Treatment in first stage:—Use poultice to bring it to a close, blister, friction and fomentations; and allay pain with opium.

Second stage.—The symptoms of inflammation above enumerated, the preceding pain in particular, has usually been exceedingly sever and constant, and attended with great constitutional irritation; quick hard pulse; white tongue; the parts become swelled and inflamed, and ulceration takes place, and a thin acid matter is discharged; when by an examination with a probe, a cavity can be traced leading to, if not into the bone. The progress of the formation of matter is sometimes extremely slow; at others, the tumour soon has signs of the fluctuation of matter.

Treatment of the second stage:—If the treatment of the first stage does not succeed, the whole must be laid open by a free incision, performed by a surgeon. Use the crocas martos wash, and dress with the green salve. Carrot poultice is good to allay inflammation, and so is slippery elm.

Give teas made of dwarf maple, and red and green osier; make thick like syrup and add princes pine, sarsaparilla, dog mackamis and spikenard; boil in water, strain and add liquor, and sweeten with loaf sugar or honey. Infallible.

CANCER.

There is no disease that ever afflicted the human family so distressing and painful as that of the cancer. Although there are not as many of the inhabitants swept off from the stage of action with this disease as with many others, namely, fevers, consumption, inflammations, &c.; yet the last stages of this complaint are intolerable.

SYMPTOMS.

A cancer commences in a very mild form, with a small blue, red, or purple spot, most frequently on or about the face, and most commonly appears in an early day of life; and it may be a term of years before the patient feels any pain from the tumour, after he discovers the small spot. But at last they feel quick, darting pains from the tumour, and as it grows in size, the pain will increase. Frequently it would not trouble the patient if he had not hurt it, and when it is wounded it will continue to run or discharge a light colored fetid matter—the margin is protruded, and it continues to enlarge and spread daily, and the result will be a scrofula ulcer, or more commonly called, a “rose cancer.” When the tumour arrives to this point, you must lose no time in applying the cancer plaster, as is laid down in the recipe for rose cancers. Apply your plaster and change it twice a day, and wash out the cancer with a decoction made of green ozier and yellow dock. [See recipe for rose cancer plaster.]

An attempt to cure this complaint without first cleansing the blood and system effectually, would be a vain attempt; and he who attempt to cure a cancer without adopting this course, had better be in his office informing his mind on the subject of cancers—yes, better by far, both for the welfare of his patient, and the safety of his own reputation. Use to cleanse the system, the cancer syrup, as laid down in cancer recipe.

CAUSES.

Most of scrofula tumours, doubtless, are hereditary, and those who have light complexion, light blue eyes, and light hair, are most liable to this disease.

The scrofula is an unwelcome visiter in whatever shape it presents itself. It appears in different forms: The *rose*, the *spider* or *tumid* cancer; also *cancer lumps* in the breast frequently appear. All the above named are of one species, but appear in different forms, and therefore require different treatment. I shall therefore treat plainly on the tumours under three different names.

The *rose cancer* is distinguished from the others by being an open, eating, ulcerated cancer; very painful and much inflamed, attended with a constant flow of fetid matter. I have made use of the skoke berries made into a salve, to good advantage in this case; but should this fail, you must apply the rose cancer plaster, as laid down in recipes. This plaster if used in season, will never fail of effecting a cure, with the addition of ozier and other teas, to cleanse the system thoroughly from bad tumours.

The *spider cancer*, so called, is a little blue or purple spot under the skin, and is visible to the eye; and when it begins to grow it continues until it adheres to the lower muscles, and produces considerable pain. From this time the tumour grows rapidly and no time is to be lost, but forthwith apply the cancer wash, &c., as before recommended.

Frequently within three or four days after you commence the operation with the wash, &c., you will perceive that the cancer begins to shrink, and the flesh to separate from the tumour. But when you discover that the flesh and tumour begins to separate, continue the wash two or three days longer, or until you can remove it. When you think the roots of the cancer are dead, try it with your fossips, and if it is dead, it will be easily extracted, and when it is extracted apply the anti-phlogestic plaster, to heal the

orifice where the tumour was taken from. Keep it on until it is well. But before you apply the anti-phlogestic plaster, examine, and see if any of the roots of the cancer remain.

FUNGUS HEMATODES.

This is a tumid kind of cancer and is considered by physicians to be almost unmanageable or incurable. They very soon affect the system, and produce a cough and consumption; or if it locates on the extreme parts, such as the hands, arms, &c., and the patient gets off without the amputation of the limb, he has better luck than nine tenths that are afflicted with this complaint.

The tumour is some like the bone tumour, or the white swelling. I have had considerable experience in this complaint, and I find it hard to conquer. I was called, in the circle of my ride, to see a man about sixty years of age, who had one of those tumours on his under lip, of about four years standing. It was very painful, but I applied my cancer wash which destroyed it in a measure; but a more favorite friend to death had possession of him, (it was the consumption,) and in a short time it swept him off from the stage of action.

I was called to see another patient, a young woman, who had had her arm amputated in consequence of a tumid cancer. In about two years after she had her arm amputated, a tumour of the the same kind broke out on her head, and made rapid progress. I told her that her case was doubtful. She asked me if I could destroy the tumour with my wash, and I gave her an affirmative answer. She requested me to proceed and destroy it if I could. She said she would reward me for my labor whether she lived or died. I applied the wash ten days and the tumour came out root and branch. It weighed eight ounces—measured one and a half inches through the base—and projected four inches on the surface.

The orifice soon began to heal and had the appearance of doing well; but it terminated as I expected, and as I informed her it would. Her lungs being very much affected, the consumption put a period to her existence.

The *cancer lumps* in the breast begin with one, two or three, small lumps in the centre of the breast, but do not make much proficiency for some time; but when they begin to grow in size, they will be attended with darting pains, heat, and inflammation, with the enlargement of the breast, and considerable soreness.

If the above should be the symptoms, apply the anti-phlogistic plaster, and if after the continuation of it for some time, the lumps do not disappear; add one part of skoke berry salve to the anti-phlogistic, and it seldom fails of effecting a cure. But should the patient be so unfortunate as to have the tumour break and discharge, make free use of the green osier wash; also make use of the vegetable cancer plaster, the same as for the rose cancer, and it will effect a cure in a short time.

I have taken great pains to get hold of the best medicines to cure all kinds of cancers, and could cite you to many more good remedies, but from close observation through a lengthy practice, I have found that the remedies that I have mentioned are the best; to which might be added the following:—

Take one teaspoon full of antimony, put into a half pint of water and let the patient take a table spoon full three times a day; but if it causes sickness, lessen the dose. This is to be taken only in the tumid cancer. During the use of the wash a light diet must be taken, and omit the use of salt as much as possible.

I can with confidence say to my brother practitioners, that the cancer medicines as laid down above, can be relied upon. They cost the author more than five times the price of this book, besides many days hard labor.

I will cite you one case more that came under my practice, and then close my remarks on cancer tumours and cures. I was called to see a daughter of Daniel Wever, of Geneseo, Livingston

county. She had a spider cancer on her lip; I applied the cancer wash, and in five days it came out, and she recovered. The tumour was two inches long. About one year after this, she applied to me once more with a tumour of the same kind on her breast. I destroyed it in twenty-four hours. But a short time after she applied again to me, making the third time; she had three cancers on her head, about the size of a walnut. I made use of the wash and in four days they came out root and branch, and then by taking a thorough course of medicine, she recovered, and now she is perfectly well.

I could refer you to many more cases, but I conclude that my readers will be tired, therefore let this suffice until you give it a trial, when you will be satisfied of the utility of the remedies that I have laid down.

GENERAL REMARKS ON FEVER.

This important and universal disease, has prevailed from the earliest ages of man to the present time, and has swept off millions in the midst of their business, and in the midst of their days, and that too, without regard to rank or age. It has broken asunder the warmest ties of humanity, and destroyed many fond hopes of happiness and youthful enjoyment. Within a few weeks, perhaps, after the commencement of slow typhus or putrid fever, the scene of life closes forever, and the body goes to swell the list of the pale nations of the earth.

Fevers differ very much in type throughout the United States, according to situation, the season of the year, and the climate in which they prevail. I have not room in the limits of this work, to give a history of the cause and type of the malignant fever which prevailed in New England and elsewhere forty years ago, but it would be well for physicians to keep in view, the change of fever and the variation of type, from that time to the present day.

All *autumnal* fevers originate from one general predisposing cause; I shall, therefore, describe them all, in every climate, under one head. Respecting other fevers of the country, I have given my views of them in full, in the preceeding pages of this work.

CAUSES.

In all low, marshy districts, bilious remittent and intermittent fevers prevail, about the time the stumps are decaying in newly settled places. The inhabitants are exposed, to noxious exhalations from swamps, rivers, lakes, ponds and marshes—from the decay of floodwood and vegetable matter. The effluvia from these putrefying bodies rising and floating in the atmosphere, produces the most serious bilious intermittent and remittent, typhus, nervous, malignant and putrid cases of fever.

BILIOUS FEVER.

SYMPTOMS.

Languor, drowsiness, dull pain in the head and back, soreness of the eyeballs, with a sense of fullness and tension when moved to the right or left; pain in the bones and loins; nausea, yellow skin, tongue coated white or yellow, with a dark red line through the centre; slight fever, obstructed perspiration; and often a vomiting of bilious matter. These symptoms increase towards evening.

TREATMENT.

In the first place cleanse the stomach and bowels effectually with emetics and cathartics, raise perspiration if possible, and thereby prevent a course of the fever. If these means prove ineffectual, the symptoms and appearances of the particular case, should guide the administration of remedies. The following practical maxims are applicable to the various grades and forms of fever:

If the foregoing symptoms do not abate on the third day, you may calculate on a course of fever to combat. Unlock the secreting vessels with nauseating and alterative medicine, that the bilious contents may be thoroughly evacuated. Give febrifuges, fever powders, Dover's powder, black sanicle snake root, cool wort, and balm teas, slippery elm, &c. These drinks will have a tendency to raise perspiration, allay fever, and quench thirst. It is the physician's business to eye this fever closely in the advancing stage. If on the seventh, ninth or eleventh day, the symptoms are more favorable, longer intervals between the paroxysms of fever, perspiration easily obtained, coat on the tongue disappearing, leaving it moist and soft, there is great encouragement both for the patient and physician. But if on the above days, no crisis appears, and they pass the thirteenth day with increased symptoms, dark brown dry tongue, delirium, involuntary motion of the tendons, with typhoid symptoms, in all their horrible and malignant forms, the case will probably proceed to a fatal termination.

BILIOUS REMITTENT FEVER.

This fever has prevailed more extensively than any other, in the Genesee country, as well as many other places. After the usual symptoms of this disease, the fever commences about the middle of the day, with a full, round, heavy pulse, and runs until about five in the evening, when a cessation of about two hours, occurs. After this interval, you will perceive a small, quick, wiry pulse, which continues two or three hours longer, when the fever subsides for the day. Now let the patient get all the sleep he can, for at seven o'clock the following morning, this little remittent visitor will call on him again for two or three hours, thus forming the circle of its daily course.

SYMPTOMS.

The symptoms of this disease are somewhat like those of bilious fever, cold chills, restlessness, pain in the head, giddiness, skin and eyes yellow, nausea at the stomach, copious evacuations of bile, flushes of the face, tongue white or dark yellow, and great prostration of strength.

TREATMENT.

After free evacuations, Dover's powder, fever powder, cooling drinks, as balm, coolwort, black sanicle snake root, barley coffee, &c. Febrifuges; the following I can recommend:—Take of pulverized wild turnip, a table spoon full; ferania pulverized, a teaspoon full; licorice root pulverized, two table spoons full; intimately mixed; of this compound put one teaspoon full in a tea cup, fill with boiling water, stir, settle, turn off from the sediment and add one grain of soda. Dose, a teaspoon full every two hours. This is an excellent febrifuge in fevers, give it a trial.

FAVORABLE SYMPTOMS.

Calmness and quietude both of body and mind; skin soft and moist; tongue cleansing; pulse easy and not sunk; fever less ardent; longer intervals between the paroxysms, and less thirst.—Now let the patient eat a small piece of broiled pork.

UNFAVORABLE SYMPTOMS.

Destitute of perspiration; dark brown or black dry tongue; fever high with shorter intervals; great thirst, anxiety, delirium, twitching of the nerves; trembling of the hands; voice unnatural; frequent sighing; eyes sunk and glaring; low muttering, hickup, convulsion and death.

Diet.—The diet should be of a cooling nature, and easily digested, watergruel, rice, Indian pudding, chicken broth, beef tea, calves feet jelly, arrow root, and milk-porridge.

Drinks.—Spice bush, barley coffee, black snake root, coolwort, fever root, garden balm, lemonade, tamarind water sweetened. Three well roasted apples put into a quart of cold water, make a very palatable and cooling drink.

Cleanliness is of great importance in all cases of sickness.—Change the bed clothes often; wash your patient every day with soap suds, especially in cases of fever. Admit the fresh air freely into the room; it will do the patient more good than two visits from his physician.

ON DISEASES OF INFANTS.

INTRODUCTION

It is frequently said that little can be done for infants laboring under disease, because they can give no history or statement of their feelings and symptoms.

Their diseases are simple and uniform, and to an experienced examiner, sufficiently apparent. Their signs of suffering cannot be mistaken, or pass unheeded by a man of sagacity and feeling. Their language is that of nature, unsophisticated. They never cheat us. They have no imagination of their own, and fortunate would it be for them if their nurses had none.

The God of nature has provided for them medicine and food, in the aliment which they draw from their mother's breasts, and common sense forbids the substitution of any filthy product of the gossip's brain. Not but what good nurses are of vast importance; doubtless they have been the means of saving the lives of numbers of our fellow beings. But the worst casualty that can hap-

pen to an infant, is to have a nurse who "knows a thousand things that are good for wind; and how to draw the mother's breasts, and make pap, and caudle," and is skill'd in "elixers and laudanum."

Formerly a surgeon could not live in peace, within hail of a prime nurse, "unless he cut the string of the tongue of all the infants born in his vicinity." But fortunately for the children of men, they are not now presumed to be sent into the world "half made up." And it is to be wished that all gossips who believe in tongue-ties, chamber lie, hot caudle, wind, and apparitions, could see the error of their ways, and reform, as well for their own good name, as for the well being of those whom they shall be called to attend.

Soon as convenient after the child is born, it should be put to the mother's breast; if circumstances forbid this, let it be fed with a little clean molasses and water, the best substitute for the first of the mother's milk, which is laxitive. Its dress should in no way make it uncomfortable. It should be suffered to sleep much of the first month, and when awake, carefully dandled for exercise.

When the bowels of a new born babe do not move in time, and the molasses have been given; a teaspoon full of castor oil should be given, and repeat it in four hours should it be ineffectual or vomited up.

Take two drachms of rhubarb and boil in one gill of water, then add half a drachm of manna and sweeten with loaf sugar, and one half drachm of soda. Administer freely until the bowels move. Physic may be assisted by emollient injections. When convulsions take place, put them in warm tepid baths, or sometimes soaking the feet in warm water answers all purposes; it will remove spasms, and helps cathartics; and do not forget the injections in this case.

DIARRHŒA.

A diarrhœa often follows infants and children in consequence of bad diet, damp rooms and negligence. In attempting the cure,

we should be careful to avoid all causes which are obvious, and pay particular attention to the diet. It is frequently the case, that the diet is offensive to the stomach, or badly digested, when we least suspect it, consequently we should watch carefully what food is agreeable, and not fail to inspect the stools.

If there is fever, we should begin the treatment with the fever solution: give according to the age of the child.

After the stomach and bowels are cleansed, use the following:—

Spikenard, comfrey and blue violet, made into tea, and sweetened with loaf sugar. Paregoric is also good in some cases. The tepid bath is useful in rousing the skin, and soap added to it occasionally, will be beneficial both as a medicine and detergent. Injections should not be forgotten, and castile soap should be dissolved in them also.

There will be cases where the head suffers, and symptoms of dropsy in the head may attend, for which, apply blisters on the back of the neck. If vomiting supervene, put mustard paste or blisters, on the stomach and limbs. Those on the limbs may be changed to another place soon as they begin to inflame the skin, as we wish only to produce counter irritation and not blistering.

VOMITING.

Vomiting is very common to healthy children, who eat or drink more than is necessary, and needs no medication, of course. If you give emetics, treat as in croup and hooping cough.

When vomiting in children becomes troublesome, and attended with fever or emacitation, apply irritations to the skin, as mustard paste, ginger, warm baths, &c. Give internally the following:—Magnesia, two drachms; cardamon seeds, one drachm; anis seed, one drachm; water, one pint. Feed freely.

[NOTE.—Many diseases incident to childhood have been noticed before. See Croup, rattles, hooping cough, &c.]

OF DISEASED PARENTS.

One great source of the diseases of children, is the unhealthiness of parents. It would be as reasonable to suppose or expect a rich crop from a barren soil, as that strong and healthy children should be born of parents whose constitutions have been worn out by intemperance or disease.

An ingenious writer observes that, "on the constitution of the mother depends, originally, that of her offspring." No one who believes this will be surprised, on a view of the female world, to find disease and death so frequent among children. A delicate female, brought up within doors—an utter stranger to exercise and open air—who lives on tea and other slops, may bring a child into the world, but it will hardly be fit to live. The first blast of disease will nip the tender plant in the bud. Or should it live and struggle through a few years existence—its feeble frame shaken with convulsions from every trivial cause, will be unable to perform the common functions of life, and prove a burthen to society.

If to the delicacy of mothers we add the irregular lives of the fathers, we shall see further cause to believe that children are often hurt by the constitution of their parents. A sickly frame may be originally generated by hardships, or intemperance, but chiefly by the latter. It is impossible that a course of vice shall not spoil the best constitution; and did the evil terminate here, it would be a just punishment for the folly of the sufferer. But when once a disease is contracted and rivited in the habit, it is often entailed on posterity. What a dreadful inheritance is the gout, the scurvy, the king's evil, or venereal complaints, to transmit to our offspring.

A person laboring under any malady, particularly bad blood, ought not to marry till that is properly cleansed, and the disease eradicated. Want of attention to these things in forming a connection for life, has rooted out more families than the sword.

Such children as have the misfortune to be born of diseased parents, will require to be nursed with greater care than others. They should also go through a course of mild, cleansing, vegetable remedies, and by a proper perseverance, we may in this way make amends for the defects of constitution.

CLOTHING OF CHILDREN.

The clothing of children is so simple a matter that it is surprising that so many should err in it; yet many children lose their lives, and others are deformed, by inattention to this article.

Nature knows of no use of clothes to the infant but to keep it warm. All that is necessary for this purpose, is to wrap it in a soft loose covering. Were a mother left to the dictates of Nature alone, she would certainly pursue this course. But the business of dressing an infant is in a great measure out of the hands of mothers, and has principally become a secret which none but nurses pretend to understand.

From the most early ages it has been thought necessary that a woman in labor should have some one to attend her. This in time became a business; and, as in all others, those who were employed in it strove to out-do one another in the different branches of their profession. The dressing of a child became of course to be considered as the midwife's province; who no doubt imagined, that the more dexterity she could show in this article the more her skill would be admired. Her attempts were seconded by the vanity of parents, who, too often desirous of making a show of the infant as soon as it was born, were ambitious to have as much finery heaped upon it as possible. Thus it came to be thought as necessary for a midwife to excel in bracing and dressing an infant, as for a surgeon to be expert in applying bandages to a broken limb; and the poor child as soon as it came into the world, had as many rollers and wrappers applied to its body as if every bone had been fractured in the birth; while these were often so tight,

as not only to gall and wound its tender frame, but even to obstruct the motion of the heart, lungs, and other organs necessary to life.

Among the brute animals, no art is necessary to procure a fine shape. Though many of them are very delicate when they come into the world, yet we never find them grow crooked for want of swaddling bands. Is Nature less generous to the human kind? I answer, no: but we take the business out of Nature's hands.

Not only the analogy of other animals, but the very feelings of infants tell us, they ought to be kept easy and free from pressure. They cannot, indeed, tell their complaints, but they can show signs of pain; and this they never fail to do by crying when hurt by their clothes. No sooner are they freed from their bracings than they feel pleased and happy; yet, strange infatuation! the moment they hold their peace, they are again committed to their chains.

COLLECTION AND PRESERVATION OF PLANTS.

Each of the kingdoms of Nature furnishes articles which are employed in medicine, either in their natural state or after they have been prepared by the art of pharmacy.

In collecting these, attention must be paid to select such as are most sound and perfect, to separate from them whatever is injured or decayed, and to free them from all foreign matters adhering to them.

Those precautions must be taken which are best fitted for preserving them. They must in general be defended from the effects of moisture, too great heat, or cold, and confined air.

When their activity depends on their voltaic principles, they must be preserved from the contact of the air as much as possible.

As the vegetable kingdom presents us with the greatest number of simples, and the substances belonging to it are the least constant in their properties, and most subject to decay, it becomes necessary to give a few general rules for their collection and preservation.

Vegetable medicines should be collected in the countries where they are indigenous; and those which grow wild in dry soils, and high situations, fully exposed to the air and sun, are in general to be preferred to those which grow in moist, low, shady, or confined places.

Roots which are annual, should be collected before they shoot out their stalks or flowers; biennial roots, in the harvest of the first, or spring of the second year; perrennial, either in the spring before the sap has begun to mount, or in harvest, after it has returned.

Those which are worm eaten or decayed are to be rejected.— The others are immediately to be cleansed with a brush and cold water, letting them lie in it as short a time as possible; and the fibres and little roots, when not essential are to be cut away.

Roots which consist principally of fibres and have but a small top, may be immediately dried. If they be juicy, and not aromatic, this may be done by a heat not exceeding 100 degrees of Fahrenheit; but if aromatic, by simply exposing them, and frequently turning them in a current of cold, dry air: if very thick and strong, they are to be split and cut into slices, and strung upon threads; if covered with a tough bark, they may be peeled fresh and then dried. Such as lose their virtues by drying, or are directed to be preserved in a fresh state, are to be kept buried in dry sand.

No very general rule can be given for the collection of herbs and leaves, some of them acquiring activity from age, and others, as the mucilaginous leaves, from the same cause losing the property for which they are officinal. Aromatics are to be collected after the flower buds are formed; annuals, not aromatic, when they are about to flower, or when in flower; biennials, before they shoot, and perennials before they flower especially if their fibres become woody.

They are to be gathered in dry weather, after the dew is off them, or in the evening before it falls, and are to be freed from decayed, withered, or foreign leaves. They are usually tied in bundles, and hung up in a shady, warm and airy place; or spread upon the floor and frequently turned. If very juicy, they are laid upon a seive, and dried by a gentle degree of artificial warmth.

Sprouts are collected before the buds are open; and stalks are gathered in Autumn.

Barks and woods are collected when the most active part of the vegetables are concentrated in them, which happens in the spring and Autumn. Spring is preferred for resinous bark; and Autumn for others, which are not resinous but rather gummy. Barks

should be taken from young trees, and freed from decayed parts and all impurities.

The same rule directs the collection of woods; but they must be taken from very young trees. Among the resinous woods, the heaviest, which sink in water, are selected. The rough bark is to be rejected.

Flowers are collected in clear, dry weather, before noon, but after the dew is off; either when they are about to open or immediately after they have opened. Of some, the petals, or colored flower leaves only, are preserved, and the colorless claws rejected; of others whose calyx, or outer covering, is odorous, the whole flower is kept. Flowers which are too small to be plucked singly, are dried with part of the stalk. These are called heads, or tops.

Flowers are to be dried nearly as leaves, but more quickly, and with more attention. As they must not be exposed to the sun, it is best done by a slight degree of artificial warmth.

Seeds and ripe fruits, unless when otherwise directed, are to be gathered when ripe, but before they fall spontaneously. Some bulky fruits are freed from their core and seeds, strung upon threads, and dried artificially. They are in general best preserved in their natural coverings, although some, as the colocynth, are peeled; and others, as the tamarind, preserved fresh. Many of these are apt to spoil, or become rancid; and as they are then not fit for medical use, no very large quantity of them should be collected at a time.

The proper drying of vegetable substances is of the greatest importance. It is often directed to be done in the shade, and slowly, that the volatile and active particles may not be dissipated by too great a heat; but this is an error, for they always lose more by a slow, than by a quick drying. When, on account of the color, they cannot be exposed to the sun, and the warmth of the atmosphere is insufficient, they should be dried by an artificial heat, not exceeding 100 degrees of Fahrenheit, and well exposed to a cur-

rent of air. When perfectly dry and friable, they have but little smell; but after keeping for some time, they attract moisture from the air, and regain their proper odor.

The boxes and drawers in which vegetable matters are kept, should not impart to them any smell or taste; and more certainly to avoid this, they should be lined with paper. Such as are volatile, or of delicate texture, or are subject to suffer from insects, must be kept in well covered glasses. Fruits and oily seeds, which are apt to become rancid, must be kept in cool and dry, but by no means a warm or moist air.

Oily seeds, odorous plants, and those containing volatile principles, must be collected fresh every year. Others, whose properties are more permanent, and not subject to decay, will keep for several years.

Vegetables collected in a moist and rainy season, are in general more watery, and apt to spoil. In a dry season on the contrary, they contain more oily and resinous particles, and keep much better.

BARTON AND BIGALOW'S FAVORITE PRESCRIPTIONS.

The list of medicinal preparations which follow, comprises, with but few exceptions, all my favorite *compound* remedies; together with many gathered in the course of a long life, or selected from the successful practice of other physicians. None of these are infallible in all cases, although many of them, properly employed, will, I venture to say, fulfil all reasonable expectations that can be entertained from medicine. But good medicine will frequently disappoint expectation; when this happens, however, before we discard or blame the means, let us satisfy ourselves that they have not been misapplied; for more depends upon a *correct application*, than upon the specific virtues of any remedy; and sagacity and skill to direct, constitute the great secret of success in practice.

Many of the recipes here given may be considered of little consequence, or even frivolous. Some of them, perhaps, are so, individually. But to the discerning practitioner, all of them will afford VALUABLE HINTS, which he may improve with advantage.—With this view, alone, they are here published.

FAVORITE PRESCRIPTIONS.

The Tonic Tincture—32 gallons.—In thirty-two gallons of good sound cider, infuse five pounds of the inner bark of white oak, pulverised; eight pounds of horseradish root, bruised; and three

pounds of Seneca snake root, bruised. Cover it, and let it stand in a warm place, or over a gentle heat (not exceeding blood heat) for six days. Then strain the liquor off into a clean cask, and add three pounds of the carbonate, or rust of iron; and two ounces of oil of cloves, decomposed in alcohol.

Let this now stand for two or three weeks, shaking it up occasionally, and not wholly excluding the air; when it will be sufficiently prepared to draw off into bottles, or it may remain in the cask.

To every bottle of this tincture, add half an ounce of "Turlington's balsam of life." Shake them together till they are incorporated, when the composition is ready for use.

Dose, from one-third to two-thirds of a common wine glass full, three times a day, before meals.

In all cases of debility, and weakness of blood, in consumptions, dropsy, long continued agues, obstructed menses, &c., this tonic tincture will be found an invaluable medicine.

The Mother's Cordial—1 gallon.—Take one pound of the partridge berry vine, or squaw vine, dried; and one fourth of a pound of high cranberry, or camp bark; boil in two gallons of water to three quarts; strain, and add one quart of brandy, and one pound sugar.

Dose, in the latter stages of pregnancy, half a wine glass full every night on going to bed, in a little warm water. The dose may be increased to a gill, if necessary to relieve cramps and pain.

This is an inestimable cordial for pregnant woman, and should be used in all cases, for at least one or two weeks previous to confinement, as a preparatory.

The Female Strengthening Syrup—Take one fourth of a pound of comfrey root, dried; two ounces of elecampane root; and one ounce of hoarhound. Boil from three quarts to three pints; strain and add, while warm, half an ounce of beth root, pulverized; a pint of brandy, and a pound of loaf sugar.

Dose, from half to two-thirds of a wine glass full, three or four times a day.

This is used in female weaknesses, bearing down of the womb, flour albus, debility, relaxation of the genital organs and barrenness.

The Anti-mercurial Syrup—This medicinal preparation, taken in proper doses, operates as an alterative and detergent; a diaphoretic, diuretic and laxative; an anti-spasmodic and anodyne; and, in proper cases, as a stomachic and emmenagogue. Generally expressed, it increases all the secretions and excretions, and excites action in the glands in a particular manner. From these principles its effects may be deduced.

The diseases to which it is applicable are pointed out in the course of this work.

The doses must vary greatly in different persons, some being able to bear less than a sixth part of the quantity that others can. Those persons especially whose blood is weak and watery, require a very small proportionate dose. The average dose for a healthy adult, is half a common wine glass full, (about two thirds of an ounce,) increasing it to two-thirds of a wine glass full, according to its effects. It should be taken three times a day, fasting, or about half an hour before meals. An over dose will produce considerable dryness in the fauces, and a temporary dimness of the sight, which will be perceived on attempting to read. A slight dimness is of no consequence, and only serves to shew the proper effect of the medicine; but more than this would not be advisable. The proper dose produces no inconvenient effects, or unpleasant feelings. Under its operation, no restriction in diet is required, or abstinence from the common business avocations; ardent spirits, however, must be abstained from. The pores being opened rather more freely, the liability to taking cold is somewhat increased; but it produces no deleterious effects, and is only injurious from its retarding the cure. This invaluable preparation has, in my practice, saved many lives that were deemed past all hope.

The Anodyne Wash—4 gallons.—Take fifteen pounds of blood beets, sliced: boil to two gallons, and strain. Then add, while warm, one pound and a half of sal ammoniac, and half a pound of opium. Stir it occasionally till they are dissolved; when the whole may be strained; and add to it two gallons of proof spirits.

A little spirits of lavender may be added to give it a flavor.

This will be found a valuable cooling and anodyne application in all cases of inflammation, bruises, pain, &c.

The Children's Cordial.—Take two ounces each of pink blows, smellage root, and pleurisy root; boil to one quart; strain, and add one quart of fourth proof brandy, and one pound of sugar.

Dose, for an infant, a teaspoon full, repeating if necessary.

For the colics, fits, green stools, &c. of children, this is an excellent remedy.

Chalk Julep.—Take of prepared chalk, four ounces; rhubarb, one ounce; pour upon them one quart of hot water. Then add half an ounce each of essence of peppermint and paregoric. Let it steep a short time, and after it has settled, decant it off, and bottle it up.

Dose for an adult, from one to two table spoons full.

In dysentery and diarrhœa, proceeding from acidity in the first passages, this will be found of superior efficacy.

Clove Jelly.—Take two pounds of best English glue, or (which is preferable) an equal quantity of calves' feet jelly: dissolve it in two quarts of water; and add three pounds of refined sugar, half an ounce of oil of cloves, and an ounce of "balsam of life." Incorporate them well together, and let it cool, when it becomes a jelly.

Dose, a piece the size of a hickory nut, four or five times a day.

This may be taken with advantage in cases of a weak stomach, general debility, gleet, seminal weakness, &c.

Sal Aeratus and Rhubarb Mixture.—Take three parts of sal aeratus, and one of rhubarb, finely pulverized. Mix.

A teaspoon full taken daily, dissolved in a tumbler of cold water and sipped up in the course of the day, is inferior to no other preparation in relieving acidity in the stomach.

Stramonium Tincture, or Green Drops.—Take one quart of stramonium seeds, pulverized; boil in four quarts of water to 2 quarts; strain, and add two quarts of spirits.

Dose, from ten to twenty-five drops, two or three times a day.

For Costiveness.—Take two ounces of rhubarb, and one ounce of rust of iron; infuse in one quart of wine.

Dose, half a wine glass every morning.

Conserve for a cough.—Take three parts of fresh comfrey root, and one part of green Indian turnip; bruise together into a fine paste, and add two parts of refined sugar. Mix.

A table spoon full of this may be eaten three or four times a day, for coughs, &c.

Worm Syrup.—Take one ounce of aloes; half an ounce of assafoetida; and four ounces of snakehead, dried: boil the snakehead to one quart, and add the aloes and assafoetida, and a quart of molasses.

Dose, for a child, a teaspoon full every half hour, till it operates as physic, which will bring away the worms in a slimy mass.

Healing Wash.—Boil half a pound of witch hazle bark to a decoction of a quart; and add three or four ounces of "Turlington's balsam of life," and (at pleasure) a drachm of white vitriol. Shake them well together.

For cleansing and healing excoriated surfaces, and correcting crimony and putridity, this is second to none. It is particularly serviceable as an injection in gonorrhœa, and as a wash for several cers.

The Green Salve.—To three pounds of lard, add a quarter of a pound of beeswax; two ounces of verdigris, finely pulverized; and one pound of Scotch snuff. Melt, and stir till cold.

This is a most excellent salve for cleansing and bringing life and action into foul and ugly ulcers. I find great use for it.

The Bittersweet Ointment.—Take equal parts of plantain leaves and root, bittersweet bark, and spikenard root, boil out the strength, strain and make it into an ointment with hogs lard.

This is a valuable ointment, and is frequently recommended in this work. It softens and relieves a caked and inflamed breast in a remarkable manner, and may be applied with advantage.

Iron and Myrrh Pills.—Take rust of iron, three parts, and myrrh, pulverized, one part. Make into a mass with Castile soap and molasses.

Dose, two or three twice a day. They are used for the same purposes as the tonic tincture.

Fir Pills.—Take balsam of fir, and mix in enough of foxglove, pulverized to make it of a proper consistency for pills.

Dose, three or four, twice a day. These pills will often cure a gleet, and are generally useful in completing the cure of gonorrhœa.

For Epileptic Fits of the Nervous kind.—Take one ounce each, of gum myrrh and flour of sulphur; half a gill of spirits of turpentine; and one gill of oil of almonds, or of sweet oil. Simmer all together two or three hours, until it becomes red. Then drain the liquid off from the sediment, and bottle it up.

Dose, from fifteen to thirty drops twice in twenty-four hours, for an adult, and in proportion to children.

MISCELLANEOUS PREPARATIONS.

Asthmatic Tincture.—Take half a pound of quick lime, slack it by turning on two quarts of hot water, and while it is slacking

and boiling, stir in two spoons full of tar; mix them well together, and then let it settle. Take half a pound of wild turnip, half a pound of milk weed roots, fresh, a small hand full of lobelia; mash and infuse them in two quarts of wine, in a sand heat, for twenty four hours; then press and strain, and add to it the lime water, and bottle it for use.

Dose, a wine glass three times a day.

This is useful in coughs, asthmas, consumptions, hysterics, spasms, &c.

Dr. Hull's Genuine Bilious Physic.—Take eight ounces of aloes; one ounce each, of mace, myrrh, cinnamon, cloves, saffron, and ginger; four ounces of the dried leaves of the garden sunflower, or of the wild sunflower. Pulverize the articles separately, and mix them thoroughly. Dose, a teaspoon full.

The efficacy of this celebrated physic in the cure of bilious colic, is well known. This is the first genuine recipe of it ever published. Several spurious ones have been circulated, but in them the two active articles, saffron and sunflower, were omitted.

Dr. Young's Deobstruent Pill.—Take aloes, in fine powder, two ounces; Castile soap and the best of flake manna, of each one ounce; oil of aniseed a sufficient quantity to reduce it into a mass for pills. Make twelve pills out of each drachm; one of which may be taken at any time of the day, occasionally as a laxative, to resolve and carry off foul viscid matter from the bowels, thereby, obviating costiveness, and preventing the numerous evils incident to it. They produce the most salutary effects in cases in which the bile is inert. Their operation is remarkably gentle.

Detergent Syrup.—Take equal parts of bittersweet bark; burdock roots; dandelion tops and roots; sumach, bark of the root; tag alder, the bark and tags; sassafras, the bark. Boil all together to a syrup, strain and sweeten, and add spirits enough to preserve it from fermentation.

Dose, according to its effects, two or three times a day. It cleanses and purifies the blood from humors, and causes a free circulation.

Strengthening Syrup.—Take balm of gilead buds, black cherry bark, black alder bark, or berries, colombo root, dogwood bark, unicorn root, and whitewood bark; prepare in the same manner as the above, and take as the stomach will bear.

This is an excellent stomachic, and strengthens the system generally.

Expectorant Pills—Take of blood root, mandrake and Indian hemp, each one ounce; lobelia, the seeds and leaves, a quarter of an ounce; Indian turnip, one ounce; all pulverized fine; opium, half an ounce; and licorice extract, half an ounce; all to be formed into a mass for pills, with the mucilage of flaxseed, or slippery elm and honey, or molasses, and made into common sized pills.

Dose, one pill once in six hours, for coughs, colds, consumptions, &c.

Vegetable Bilious Pills.—Take mandrake, eight ounces; blood root, four ounces; lobelia, leaves and seeds, four ounces; gamboge, eight ounces; all finely pulverized; one fourth of an ounce of the oil of peppermint, or aniseed, and as much molasses as will form into a mass for pills. Dose, from two to six pills.

Anodyne Sudorific Pills.—Take opium, one ounce; ipecac, one ounce; pleurisy root, one ounce; Indian turnip, one ounce; camphor gum, half an ounce; all to be pulverized fine, and formed into a mass with the mucilage of gum arabic, and made into common sized pills. One pill may be taken every four or five hours.

They ease pain, and create a moderate perspiration; and are good in all cases where anodynes and sudorifics are proper.

Emetic Powders.—Lobelia, the leaves and seed; Indian hemp, the roots, each two ounces; blood root, half an ounce; and anise,

caraway, or fennel seeds, or angelica or calamus root added: all pulverized, and mixed. One teaspoon full to be put into a cup of warm water, or gruel, and sweetened, to be taken at a dose. It may be repeated until it operates.

For a quick Bilious Purge.—Take sixteen parts each of gamboge and mandrake; eight parts each of blood root and lobelia seeds, pulverized; and one part of oil of lobelia. Mix well with mucilage of gum arabic, for pills. Dose, for a purge, from three to four; for a purge and emetic, from five to six.

Cathartic Powders.—Take mandrake root, and blue violet, each two parts; blood root, one part; all to be mixed. Dose half a teaspoon full two or three times a day.

They remove costiveness, indigestion, and correct the stomach and bowels.

Stimulating Cathartic Powders.—Add to the above mentioned composition, one part of golden seal, or colombo; and one fourth part of Cayenne pepper. Exhibited in the same manner as the above, only in rather larger doses.

Tonic Powders.—Take equal parts of golden seal, colombo root, and rust of iron, all finely pulverized. Mix. Dose, from five to twelve grains three times a day.

This is a powerful tonic in cases of debility.

Sudorific powders.—Take pleurisy root, and Indian turnip, each two ounces; blood root, one ounce; pulverize and mix.

Dose, half a teaspoon full once an hour; to be given in fevers, after the stomach and bowels are cleansed.

Bone's Bitters—1 quart.—Take unicorn root, one ounce; blood root, one fourth of an ounce; ginseng, half an ounce; devil's bit, half an ounce; rue, one fourth of an ounce; seneca snake root, sassafras bark, and golden seal, each one fourth of an ounce.—

Digest in one quart of best Jamaica spirits, in a sand heat, for twenty-four hours; then strain. Dose, a teaspoon full three times a day, in water.

This bitter is celebrated for its fine restorative and strengthening qualities, in indigestion, rheumatism, dropsy, &c.

For Epilepsy and Nervous Fits.—Take one ounce of gum myrrh pulverized; one ounce of flour of sulphur; half a gill of spirits of turpentine; and a gill of oil of almonds, or of sweet oil. Simmer together two or three hours, until it becomes red. Then drain it off from the sediment, and bottle it up. Dose, from fifteen to thirty drops, twice in twenty-four hours, for an adult.

To relieve Cough.—Take an ounce and a half of licorice root; one ounce of elecampane; half an ounce of hoarhound; two ounces of sulphur. Pulverize them, and add honey to make a conserve.

Snuff for Catarrh in the Head.—Take colt's foot, snake root or asarabacca, and bayberry bark, each two parts; and blood root, one half part; pulverize fine, and mix. If the wandering milkweed be added to this, it cures headache.

Colic powders.—Take two table spoons full of pleurisy root, and a teaspoon full of Cayenne pepper: pulverize and mix. In colics, steep the whole in half a pint of water, sweeten, and take it at a dose. It may be repeated according to circumstances.

Or, which is better, equal parts of pleurisy root and crawley root, pulverized, mixed and given in powder.

Aperient Mixture.—Take ginger root and saffron flowers, each one ounce; the bark of white ash roots, one hand full; sweet plantain, tops and roots, a double hand full; blue cohush roots, a small hand full; vervain tops and roots, a double hand full: all to be bruised; when they may be either made into a syrup, or infused in half a gallon of cider; or in the same quantity of spirits. This should be taken freely, as the stomach will bear.

This mixture opens the system generally; is good in obstructions of the menses, in rheumatism, and is powerful to drive diseases to the surface of the skin, such as erysipelas, or any diseases of the blood.

For Dysentery—(Dr. Perkins' last remedy, so called.) Take good vinegar, and as much salt as it will dissolve: add one table spoon full of it to four of hot water, and let it be taken by spoons full, as fast and as hot as it can be swallowed. This dose is to be continued once in two hours till it operates as physic. It is said to be a sovereign remedy in dysentery.

Jaundice Bitters.—Take the bark of the roots of whitewood, boxwood, or dogwood, black cherry, and prickly ash, each one had full; horseradish roots and mustard seed, each two ounces; and a hand full of hops; all to be infused in one gallon of cider, or of equal parts of wine and water. Dose, half a wine glass full three times a day.

Ague Bitters.—In one quart of wine, infuse one table spoon full of blood root; two of wild turnip; and two teaspoons full of mandrake, all pulverized fine. Dose, a table spoon full as often as the stomach will bear it.

Stoughton's Bitters.—Take orange peel, one pound; gentian root, three pounds; camwood, two pounds; pulverize and infuse them in six gallons of spirits; and after shaking it well for five or six days, decant, and bottle it up for use.

Female Bitters.—Take of crane's bill, four ounces; comfrey, four ounces; beth root four ounces; motherwort roots, four ounces; whitewood bark, four ounces; orange peel, one ounce; cinnamon, half an ounce; all bruised and infused in three quarts of good wine, and sweetened.

This is very useful in all cases of female debility; flour albus, and immoderate flow of the menses, &c.

Anodyne Carminative Drops.—Take angelica, or mother wort roots, four ounces; valerian, two ounces; calamus, half an ounce, anise, dill, and fennel seed, one ounce each, or two ounces of either; catnip, blows or leaves, and motherwort, each a large handful; pleurisy root, four ounces. Infuse the whole in two quarts of brandy; or good common spirits; and digest in a moderate heat for twenty-four hours. Then press out and strain the liquid, and add to it half a pound of loaf sugar. When settled, bottle it for use.

Dose, for children, from ten to sixty drops, according to the age: for adults, from one to four teaspoons full, in a cup of warm tea. It may be repeated once in four, or six hours. It eases pain, creates a moderate perspiration, and produces refreshing sleep; is good for restless children, removes flatulency, and wind colic: and is useful in hysteric and nervous affections, female debility, &c.

Bathing Drops.—To one quart of alcohol, add one ounce of hemlock oil; one ounce of gum guaiacum, pulverized; one ounce of gum myrrh; two teaspoons full of Cayenne or red pepper. Shake them well together, and bottle for use.

For rheumatic pains, or pain in the head, stomach, or elsewhere, bathe the parts every night and morning. They may be taken internally at the same time, in water or on sugar, in doses from ten to sixty drops.

Cough Drops.—Take saffron flowers, one ounce; blood root, half an ounce; licorice root, one ounce; elecampane and wild turnip, each one ounce; the bark of sumach root, two ounces. Digest the whole in three pints of spirits, kept warm, for forty-eight hours; then press, strain and let it settle.

Then add to it a teacup full of the juice of roasted onions, one quart of lime water, one pint of tar water, and a pint of molasses, and bottle it for use.

Dose, from one fourth to a wine glass full three times a day. This is excellent in coughs, consumptions, &c.

Another.—Take sweet oil, one pint; raw flaxseed oil, half a pint; molasses, or honey, half a pint; spirits of turpentine and balsam of fir, each an ounce; licorice extract, half an ounce: simmer the whole until mixed. Dose, from ten to sixty drops, twice or thrice a day, for colds, coughs, and consumptions.

Rheumatic Drops.—Take one table spoon full of pulverized mandrake root; one table spoon full of black cohush; and a large handful of pipsissawa, or prince's pine. Infuse them in one quart of wine. Dose, from one to four teaspoons full three or four times a day. Useful in chronic rheumatism, gout, &c.

Anti-spasmodic Tincture.—Take the leaves of stramonium and lobelia, of each two ounces; pleurisy root, two ounces; valerian, masterwort, angelica, castor, and opium, each one ounce; all broken and put into an earthen vessel, with two quarts of alcohol and half a pint of the juice of roasted onions; to which add one fourth of an ounce of Cayene pepper. Keep in sand heat for thirty six hours; then press, strain, and bottle up for use. Dose, from thirty to sixty drops; it may be taken in hot water, and sweetened, or on sugar.

In case of cramps or spasms, the dose must be repeated every fifteen minutes until it gives relief; or, in whooping cough, from ten to thirty drops once in half an hour until it nauseates or vomits. In croup it is to be taken in the same way. In asthma, give from forty to sixty drops, and repeat until it gives relief; also in lockjaw. Persons who are subject to cramp and convulsive fits, may take thirty drops, three times a day, and increase the dose one drop every day. It is quite a certain remedy in all spasmodic diseases.

For Dropsy.—Take gentian roots, four ounces; elecampane, eight ounces; sassafras, bark of the root, one pound; sarsaparilla, two pounds. Boil the whole in two gallons of water, till one half is evaporated. Dose, a wine glass full four or five times a day.

Tar Syrup.—Take one gill of tar, one pint of wheat bran, half a pound of loaf sugar, and two quarts of water; stir them well together, and then let it stand thirty-six hours; strain off, and add one quart of lime water. Dose, a wine glass full three times a day. This is an excellent remedy for coughs, consumptions, &c.

Common Gargle.—Take the flowers of life everlasting, or Indian posey; sage, and golden seal, or gold thread; make a tea, and sweeten with honey. Very useful for a sore mouth, sore throat, &c.

Or, chew the blossoms of Indian posey, and swallow the juice, which will be found of great benefit in quinsy, sore throat, &c.

Gargle for canker in the Stomach.—Make a strong tea of blood root, and take equal parts of the tea and honey, and simmer them together. Give the patient little and often, as the stomach will bear.

A Wash to remove Freckles and Tan from the Face.—Take an ounce of gum benzoin, pulverized, and boil it two minutes in a gill of alcohol; then pour it into a quart of cold water, when it becomes of a milky color.

Wash the face in rain water, without soap, and then rub the face with this wash two or three times a day, with a towel.

To remove Filnis.—Take the equal parts of saltpetre, loaf sugar, and rock salt; and one fourth as much alum: all pulverized as fine as possible, and mixed with honey. Reduce in rain water.

REMEDIES APPLICABLE TO PARTICULAR DISEASES.

The remedies which follow, let it be understood, are not mentioned here with the view of superceding, or in any wise interfering with the general plan of treatment already recommended in

the various diseases described in this work. They are inserted merely as *accidental cures*; but from which perchance, the sagacious physician may derive profitable information.

INTERMITTING FEVER, OR AGUE.

Take a pint of strong coffee, the juice of a lemon, and a gill of brandy. Mix, and drink, as the fit is coming on. This has often succeeded in breaking and curing the ague, in the worst cases.

Infuse dogwood blows, blood root, (a little,) coltsfoot, and spike-nard, in spirits. Take a wine glass full of this three or four times a day.

Make a continued drink of sage, saffron, and camphor, in tea, with sweet milk and vinegar enough to turn it.

For a draught for the feet, pond lilly, or poke roots.

Take the juice of four lemons, and pour on a pint of boiling water. Give a spoon full every ten minutes. It will break the the fit.

Peach pits and the inner bark of black alder: infuse in good spirits. Take it fasting, and often in the day.

Take one nutmeg, and the same weight of alum, finely pulverized. Mix, and divide into three portions, one to be taken each morning for three days. This is a German remedy, and is said to be infallible in breaking the fits.

Take a drachm of sulphur mixed with molasses, for three mornings in succession. If not cured, after three days try it again.

Barberry root and camomile, in brandy.

Boil one pound of oats, and a large hand full of succory, in six quarts to three; and add half an ounce of nitre, and half a pound of sugar. Dose, two gills a day.

This liquor, (which should be kept close, is used in all fevers,

pleurisies, colics, and obstructions. It is highly extolled as a preservative in an unhealthy season, and is said to prolong life, when taken for a time in the spring, dog days, and autumn.

Five finger leaf tea is excellent in night sweats and debility arising from agues.

Dandelion and sorrel, decoction, is said to break the worst fevers.

A hand full of *fish worms* in a pint of spirits. Dose, a small glass full as the fit comes on. This is powerful in quelling the paroxysm; but tonics are necessary to complete the cure.

To prevent the ague, take ten or twelve grains of black pepper daily. Persons in exposed situations would profit by attention to this.

FOR INFLAMMATORY, PUTRID AND OTHER FEVERS.

For Yellow Fever.—Take plantain juice, a wine glass full every ten minutes till the fever intermits, which usually takes place in two or three hours. Keep the patient in a free air, and let him drink camomile tea, or water without limit. On the intermission of the fever, give a smart purge.

To create a sweat in spotted and similar fevers, take potatoes, fresh out of the earth, without washing; roast or boil them, till they can be mashed, and apply them in bags hot to the feet and sides. Vinegar may be added.

In all putrid and epidemic disorders, buttermilk, either fresh or boiled, taken freely, will be found inferior to no other means of cure.

For an asthmatic in putrid fevers, when the circulation is rapid, and the heat of the body greatly increased, draw a strong infusion

of good ground malt in boiling water, strain it off, and add to a pint of it while milkwarm, two table spoons full of the best yeast, and a table spoon full of muscovado sugar; keep it warm and when it is in brisk fermentation, give the patient a wine glass full every hour, or if the symptoms are urgent, every half hour. This has frequently saved, in the last extremity.

The same infusion may be used for injection.

For the plague, and malignant and infectious fevers, the free internal and external use of sweet, or olive oil, is productive of the happiest effects. As a substitute, the following mixture may be employed: dissolve two drachms of camphor in an ounce of sulphuric ether, and beat it into a bottle of olive oil. Two table spoons full of this mixture may be taken every half hour, accompanied by softening and mucilaginous drinks in abundance, and also by clysters of the same nature.

FOR QUINSY.

To prevent its coming on, take a teaspoon full of salt in the mouth, and as it dissolves, gargle the throat with it. Repeat this till the quinsy is dispersed.

Take an ounce of wild indigo root, boil, strain, and stir in meal, for a poultice to the neck, to take out inflammation. Also gargle with the indigo root decoction. Or, marsh mallows, in a decoction.

To discuss the quinsy in its first stages, apply a plaster of four ounces of hard soap, half a pound of sugar, half a pint of linseed oil, and two ounces of resin.

Take a white bellied hop toad, cut it open alive, and apply it to the throat. This is a most powerful drawing application, though rather unseemly. When other means fail, however, it may be profitable to employ this.

THRUSH, OR CANKER SORE MOUTH.

For a gargle: in a pint of strong sage tea, dissolve borax and alum, each the size of a kernel of corn, adding a little molasses.

Or, gold thread, in decoction; or blackberry root; or yarrow tea.

Take juice of celandine, honey, and a little saffron—simmer a while and take off the scum. Apply the liquor to the sores with a feather.

For a sore mouth—take the yolk of a roasted egg, burnt leather pulverized, sage and burnt alum: mix with honey for a gargle.

Make a strong decoction of white oak bark; to which add burnt oyster shells, and burnt alum, pulverized. Used in a sore mouth.

Take sage, hyssop, gold thread, borax and alum; boil all together in a half pint of water, and add molasses, for a gargle.

A decoction of the bark of the astringent elm, (not the slippery,) used freely for a gargle, is good.

For the Black Canker.—Take night shade, half an ounce of the green herb to a quart of water, steeped. Wash the mouth and throat with this, and give a teaspoon full every two hours, to an adult: children proportionably.

Take agrimony, devil's bit, and lungwort, and boil them for a wash.

Take half a pound of squaw, or cohush root, six ounces of beech drops, and four ounces of red elm bark: boil in four quarts of rain water, to two, strain, and dissolve in the decoction two ounces of alum and half an ounce of saltpetre; to which add half a pint of honey. This will cure the most inveterate sore throat.

FOR PULMONARY CONSUMPTIONS.

A syrup: Take an ounce each of spikenard, cinnamon, Virginia snake root, and parsley; two ounces of pleurisy root; and half an ounce each of cloves and gum myrrh. Steep the whole three hours in two quarts of water. Then strain, simmer down to a pint, and add while warm, one pound of sugar, and a pint of port wine. Bottle it up. Dose, from half to two wine glasses, three times a day, according to the strength of the patient.

Rad vitæ, or life root, half an ounce, steeped in a quart of water, and used for common drink, is a most valuable remedy in beginning consumptions.

For night sweats, in consumption, or if the urine is frothy, give the elixer of vitriol, ten drops four or five times a day.

Small doses of wild turnip, in honey, four or five times a day, is useful.

Slippery elm bark, soaked in cold water, and sharpened with vinegar, is a good expectorant in consumptive coughs.

Or, a conserve of comfrey and wild turnip, in honey.

The fumes of burning resin and beeswax may be inhaled, repeating it three or four times a day.

Or, drink tar water.

Or, take the yolk of two eggs, a gill of wine, a teaspoon full of tar, and a table spoon full of honey, beat them together. Dose, a teaspoon full four times a day.

For a bleeding at the lungs, give moderately, a tea of sweet bugle, or of cranesbill.

A hand full each of comfrey, elecampane, hyssop and lungwort: boil to two quarts, add a pound of honey, and simmer to two qts. Dose, a table spoonful three or four times a day.

Adder's tongue, eaten as salad, with sugar, is of great benefit in scrofulous consumption.

Boil four ounces of hyssop, and one ounce each of wild cherry bark and skunk cabbage root, in four quarts of water to two; strain, and add a pint of honey, half a pound of sugar candy, two ounces of liquorice root pulverized, two ounces of shavings of hartshorn, one hand full of rue, three ounces of aniseed, figs and raisins, each four ounces. Boil all the ingredients in one gallon of water to three quarts. Strain the decoction, and add a quart of honey and a pound of sugar. Simmer till it incorporates; then put in a cool cellar for use. Dose a gill every morning, and at bed time, fasting.

Dogs' grease, clarified, and a spoon full taken daily, has cured a far gone consumption.

FOR COUGHS, COLDS, &c.

A large draught of boneset tea, on going to bed. A little peppermint may be added, to prevent nausea.

Or Indian turnip, a teaspoon full at a dose, and repeated two or three times, before going to bed.

Or, buttermilk whey, hot, and sweetened with molasses.

Or, brook lime, in decoction. This may be depended on for certain relief.

If the cough is severe, and continues, slippery elm, or flaxseed tea may be given, sharpened with vinegar. If it should not yield to this, let the bowels be kept open, and give horseradish, scraped in vinegar, and sweetened with honey.

Or, a syrup of common turnips, sliced and baked in molasses, or honey, a table spoon full four or five times a day.

Two parts of garlic, and one of rue, steeped in vinegar, and sweetened with honey. A teaspoon full may be taken, after every coughing.

A table spoon full each of wheat bran, and flaseed; four ounces of raisins, and a lemon, sliced, all infused in a quart of boiling water, to which add sugar. Dose, a wine glass full four times a day.

Licorice, slippery elm, Indian turnip and elecampane—make a syrup. Take three times a day.

For the whooping cough.—Take equal parts of licorice, sulphur, fresh butter, and spermaceti.

Or, pine boughs, winter green, and sweet oil.

For cough and asthma.—Take balm of gilead buds, tinctured in spirits.

Or, coltsfoot, spikenard, and balm of gilead.

For a cough.—Honey, hoarhound, licorice and slippery elm.

Or, tar water.

For cough and pain in the stomach.—Take a teacup full of hard soot: boil and strain. Add one fourth of a pound of honey. Take a little before eating.

Or, take balm of gilead buds, balsam of fir, and half a pint of sunflower seeds. Boil the seeds to half a pint, then add the best of gin, one pint, with the rest. Take a little in the morning.

For a cough.—Take six ounces of extract of licorice, one pint of white wine vinegar, one ounce of oil of almonds, and one ounce of laudanum. Dissolve the licorice in the wine, and add the other articles. Dose, one teaspoon full after every coughing.

Wild licorice, thistle roots, and arch-angel, of each a large hand full; water, three quarts. Steep to three pints, drain off, and add four ounces of loaf sugar.

For hoarseness.—Take three drops of black snake's oil, or of rattlesnakes' oil, at bed time. Also, a syrup made as follows—seneca snake root, one fourth of an ounce; licorice root, two oun-

ees; and one large onion, sliced; simmer in two quarts of water to a pint; strain and add an ounce of loaf sugar. Dose, a table spoon full four or five times a day.

Or, skunk cabbage root, or ball, pulverized, and mixed with molasses or honey. Dose, a teaspoon full four or five times a day.

Or, rub the soles of the feet with garlic and lard, beaten together, at night, repeating till cured.

Or, take sweet oil, half an ounce at a dose. Rub the chest with the same.

Or, a conserve of three parts of green comfrey, and one part wild turnip, bruised fine, and mixed with sugar.

FOR THE ASTHMA.

Vomit, when necessary, with lobelia, or blood root.

For the spasmodic asthma.—Brown paper, dipped in a strong solution of salt petre—dry it, burn, and inhale the fumes when the fit is on.

Or, which is superior to any thing else I am acquainted with—stramonium leaves soaked in a solution of salt petre; dried and smoked, as the above. This never fails to relieve in a spasm of the asthma.

Limewater, a table spoon full three times a day with from fifteen to twenty drops of the tincture of stramonium in each dose.

The oil or decoction of sunflower seeds is excellent.

Take one pint of brandy, a small handfull each of blue flag root and skunk cabbage, and one ounce of spirits of turpentine. Mix all together, and, when digested, take three or four table spoons full a day.

Skunk cabbage root, or balls, pulverized, and taken in molasses.

Skunk cabbage root, tar, masterwort, smellage and ginseng.—

Make a syrup, and sweeten with molasses. Dose, a wine glass full three times a day.

Take spermaceti, honey, hyssop, rue, sugar and ginger—make a syrup, or conserve.

For the dry asthma—raw garlies.

Take one drop of skunks' *strong* oil, on sugar, once a day, for a few weeks, and then increase to a drop twice a day, till well.

Drink, daily, a tea of arsesmart, sweetened with honey; and if necessary, foment the chest with oats fried in vinegar.

Take five hands full of coltsfoot, three do. ground ivy, two of hoarhound, two hyssop, one of wormwood, and one of maiden-hair: boil in six quarts of water, to four; and add sugar enough to preserve it. Dose, a teaspoon three times a day.

FOR PALPITATION OF THE HEART.

Take motherwort; castor, one fourth of an ounce; and skunk cabbage root. Infuse in one pint of spirits. Dose, a teaspoon full or more, three or four times a day.

Or tincture of stramonium—ten to fifteen drops three times a day.

FOR PAIN IN THE CHEST, &c.

For pain in the breast.—Take elecamane root, snake root, comfrey, spikenard, burdock, bittersweet, wild cherry bark, Solomon seal; infuse in rum, and sweeten. Dose according to its strength.

Pain in the stomach.—Take wild indigo root, in decoction, for almost every affection of the stomach—a table spoon full three times a day.

Or, boil tansy in mountain wine, and take a draught at night.

Or, balm of giliad buds infused in cider for a bitter.

For a weak stomach.—Take a hand full each of wild cherry and peach tree bark, and half an ounce of cinnamon. Boil to a pint, and add a pint of brandy. Dose, a table spoon full three times a day.

FOR HEADACHE.

If from acidity in the stomach—soak the feet in warm water; and take pearl ash, the size of a kernel of corn, dissolve in cider and drink.

Or, put a teaspoon full of ginger and a table spoon full of magnesia in half a pint of cold water, and drink.

For a snuff.—Coltsfoot, pulverized; mix half and half with Scotch snuff.

Cephalic snuff.—Take roots of daisies, yarrow, and white helibone; coltsfoot leaves, and bayberry bark, each one ounce, finely pulverized and sifted. Mix well, and drop one drachm of essence of bergamot in it; then bottle up. Take a small pinch at bed time.

FOR THE TOOTHACHE.

Chew the xanthoxylum, or toothache bark; a piece the size of the finger nail is sufficient at a time. Repeat till the pain ceases. This is as effectual as any thing of the stimulating kind.

In obstinate tic douloureux, pain, or rheumatism in the upper jaw and face, roasted fresh potatoes, applied hot, very fequently gives relief.

Opium, camphor, oil of cloves, or oil of peppermint, a pill or drop placed in the tooth, will sometimes relieve.

Or, smoke stramonium seeds, or leaves, in a pipe.

FOR DIARRHŒA AND DYSENTERY.

Take rhubarb one scruple; toasted nutmeg fifteen grains; pearl

ash, ten grains; syrup of orange peel, enough for a bolus. Take occasionally. Or, which is excellent, a decoction of witch hazle bark drank freely, with boiled milk and sugar.

Or, gizzard skins dried and pulverized, a half teaspoon full four or five times a day. This is not outdone by any other remedy.

For dysentery.—Parched or roasted corn, pulverized, and boiled in milk, fifteen or twenty minutes. A gill may be eaten every hour.

Place a quantity of peach or cherry bark, and sugar, on a net or grating in the top of a proper vessel, with a quantity of brandy in the bottom of it. Set the brandy on fire, and let the blaze act on the sugar and bark till the sugar is melted down and the bark consumed, forming a syrup in the bottom of the vessel. A table spoon full or more of this may be taken several times a day, in obstinate dysenteries, and is considered almost a specific cure.

Culver's root will often cure the dysentery.

In severe cases of bilious diarrhœa, twenty grains of salt petre, or about the size of a common bean, may be dissolved in a gill of water, and a teaspoon full taken every hour, till the disease is checked. I have seen this give relief in the last extremity.

For dysentery.—All mucilaginous substances are proper, as conserves of comfrey, slippery elm, gum arabic, &c.

Also, alkalies, as the chalk julep.

Pleurisy root, in powder, may be administered with great advantage in all cases of dysentery.

Night shade is said to be a specific in this disorder; but it requires great caution in its use. A grain of the pulverized leaves, or two drops of a saturated tincture, is sufficient for a dose, for an adult.

When the bowels are very much eroded and irritated, laudanum may be added to the other remedies. Laudanum and gum arabic is a useful formula in dysentery.

Clysters of starch, with cranesbill and laudanum, are serviceable to allay the irritation of the intestines.

Or, to ease pain, give a few drops of laudanum in hot saffron tea.

Take a teacup full of wheat flour—boil it in a bag two hours, till it becomes hard. Grate it, and take a teaspoon full in milk, two or three times a day.

Or, hard hack, or ox balm, in decoction.

Or, use white ash physic, and drink a tea of arsesmart and mullen.

Or, take a spoon full of plantain seed, bruised, morning and evening, until it stops.

Or, the leaves of plantain, boiled in milk, and taken freely.

Or, a nutmeg, pulverized, in the yolk of an egg.

Or, rice boiled in milk.

Or, equal parts of sweet oil, West India molasses, and West India rum. Mix, and simmer them to a consistence of honey.

Or, green blackberries, dried and pulverized—a teaspoon full in cinnamon water, night and morning.

Or, slippery elm, scraped, with water, bandy and sugar.

Or, white oak bark, and mullein leaves, each a hand full—boil in rain water. Then burn a pint of brandy with a pound of sugar, and add.

After purging sufficiently, give the following decoction:—Take the roots of comfrey and Solomon seal, each two ounces, tormentil root, three drachms; white oak bark, one ounce; reduce these to a powder, and boil them very gently in three pints of water to a quart, and towards the last of the decoction, add one drachm of good cinnamon, and a large nutmeg bruised; and when cool, a gill of Madeira wine, and as much refined sugar as will render it agreeable to the palate. This has cured hundreds.

FOR THE PILES.

Mullein decoction injected, and mullein leaves applied.

Stramonium leaves applied, or an ointment of stramonium.

Plantain, wild indigo, and bittersweet, in decoction, form an excellent wash for the piles.

One ounce of Goulard's extract, in one quart of spirits, for a wash. This has been sold in the shops as a specific.

Pumpkin seed oil, applied, is a valuable remedy. Or, the "bittersweet ointment."

Brown sugar and pulverized oyster shells, mixed with a cataplasm. Or tobacco ashes and palm oil: an ointment.

Sitting over the steam of a strong decoction of oak bark, is of great benefit.

For fistula and Piles.—Take the expressed juice of skunk cabbage, one pound; fresh butter, one pound; and mutton tallow, half a pound: simmer for two hours, and then press out the ointment for use. Anoint the part twice a day for ten minutes.

Along with these applications, internal remedies must not be neglected.

Internal remedy for fistula and piles.—Take sulphur and elecampane, each one ounce; fennel seeds, half an ounce; black pepper, or tincture of xanthoxylum, two drachms; and balsam copaiva, with honey, enough for an electuary. Dose, the size of a walnut, twice or thrice a day.

FOR DIABETES.

Take half an ounce of pulverized kino, and two ounces of opium. Infuse in a quart of spirits, and shake them together for a week. Dose, from fifteen to thirty drops, twice or thrice a day.

Tincture of cantharides—let it be taken daily till a slight degree of irritation is perceived in the kidneys and urinary passages: then desist for a time, and again repeat, till cured.

Prince's pine, gravel weed and wintergreen, in decoction. Drink freely.

Take a goat's horn, and put it so near the fire as to raise blisters: scrape them off, and raise more, till the horn is ured up.—Pulverize this substance fine, and give in doses of a teaspoon full twice a day in cold water.

FOR FLATULENCY, WIND COLIC, &c.

Remove the cause, whether it be acidity, debility or coldness in the stomach.

For present relief, give first of all, the pleurisy root, in powder, a teaspoon full at a dose; repeating every fifteen minutes.

Or, take two parts each of angelica and pleurisy root, and one part of sweet flag, and infuse in brandy for a bitter.

Or, bayberry bark, two ounces; grains of paradise, one ounce; ginger half an ounce; and rust of iron, one drachm; digest in a pint of spirits, and take a table spoon full three times a day, till well.

Or, essence of peppermint, a large dose, will give immediate relief. Or, caraway seeds, three drachms at a dose.

Elixir vitriol is of great service in flatulent complaints.

The common pains and disorders of the stomach may almost invariably be removed, by turning down half a pint of boiling water, as hot and as fast as it can be taken.

Obstinate fixed pains in the sides and loins of many years standing have soon yielded to the following carminative:—Bayberries, six drachms, grains of paradise, two drachms; socotorine aloes, and rust of iron, each two scruples; spirit of turpentine, 2 drachms; and simple syrup enough to make an electuary. Dose, the size of a walnut night and morning.

This is a powerful medicine.

In wind and bilious colics, and in iliac passion, purgative and stimulating clysters are of great service. Also clysters of yeast; or of tobacco smoke.

In bilious colics, quick purges are necessary.

The crawley, or fever root, cannot be given amiss in any species of colic. Alone, or taken in a tea of pleurisy root, it is superior to any thing else in common use.

If necessary, foment the pit of the stomach with hops or oats fried in vinegar. Use friction freely on the bowels.

FOR CHOLERA MORBUS.

Take an ounce of cinnamon water, a grain of ipecac, thirty-five drops of laudanum, a drachm of spirits of lavender, and two drachms of tincture of rhubarb, to be taken at one draught, which will give immediate relief.

Put a table spoon full of hot ashes in a tumbler of cider, and give the patient three table spoons full of it. This commonly cures in half an hour. If the dose is thrown up, repeat.

In all cases promote the vomiting till the offending matter is ejected.

Pearlash, in solution, may be given to allay the irritation of the stomach.

Or, sal æratus and rhubarb.

FOR EPILEPTIC FITS, CRAMPS, CONVULSIONS, &c.

Take two ounces of stramonium seeds, pulverized; one ounce of castor, and half an ounce of opium. Digest in a pint of spirits eight days, and strain. Dose, from fifteen to twenty-five drops three times a day, fasting.

Stramonium, and all antispasmodics are proper.

To break epileptic fits, put a spoon full of salt in the patient's mouth. This will give quick relief in most cases.

Procure a black snake's skin and tie it around the patient's waist, the flesh side next the skin, to be worn continually. At the same time drink constantly a tea of dogwood chips, tinctured with brandy.

Take equal parts of gum myrrh, sweet oil, spirits of turpentine, and sulphur. Dose, from fifteen to forty drops.

Take roots of comfrey, sassafras, burdock, elecampane and horse radish, and tops of hoarhound and raspberry, each a hand full. Simmer in water for eight hours, and drink a gill four times a day, for a week before the full and change of the moon.

Or, purslain tea for a constant drink.

Take a hand full each of white garden lilly root, black snake root, and plantain, boil to a pint, strain and add a pint of rum and a pound of sugar. Dose, a gill three or four times a day.

Crawley, valerian, and stramonium probably comprise as much virtue in curing these disorders, as any other articles. They however, like all others, require to be persisted in for some time to conquer this disease entirely.

For nervous fits and weakness, calves' feet jelly, tinctured with cloves, &c. is very strengthening and restorative.

For cramps.—The cramp, or high cranberry bark, given in tea will relax them in almost all cases.

FOR PALSY.

Give hot stimulants internally, and apply externally, with friction.

The phosphoric ether, prudently managed, is probably as effectual as any other means that can be used.

Or, electricity may be tried.

Xanthoxylum bark, prickly ash, galangal root, grains of paradise, &c. may be employed with advantage in palsies. Also horse radish, mustard seed, and burdock seed.

FOR JAUNDICE.

If from an obstruction from biliary calculi, give emetics.

Barberry bark, in decoction; soot tea; and bayberry bark, in tincture; are all excellent.

Or, the juice or decoction of dandelions.

Or, hog's or beef's gall, in pills or bitters.

Raw eggs, three or four times a day, in wine, helps greatly in the cure of jaundice.

Barberry, wild cherry bark, and yellow walnut bark, in decoction. Or, walnut bark, saffron and celandine, in decoction.

Or, take every night, on going to bed, two or three pills of Castile soap, and drink plentifully of soot tea.

Or, infuse half a pound of blood root in five pints of old rum, and take half a wine glass full three times a day on an empty stomach, increasing the dose.

Or, extract of boneset, in pills.

Take one gallon of cider, one dozen of eggs, half a pint of hard soot, one double hand full of wild cherry bark, and a hand full of prickly ask. Boil. Add half a pint of treacle, four pounds of sugar, and four spoons full of ginger. Dose, half a gill three times a day.

Take tamarisk or tamarack bark, one hand full, and sow bugs, a table spoon full: infuse in a pint of Teneriffe wine. Dose, half a wine glass full three times a day.

Excellent for heat or pain in the stomach, or any internal pain.

FOR DROPSY.

Take artichoke leaves, three hands full; bruised juniper berries, one quart; scraped horseradish, one handfull; green fir tops, two hands full; and bruised mustard seed, two table spoons full. Mix, and steep in two gallons of water to one. Dose, for an adult, half a pint morning and evening.

Make a tea of dwarf elder roots, for daily drink. Continue it for thirty days.

Or, make a strong decoction of milkweed roots, and drink a wine glass full three times a day.

Or, a decoction of white clover flowers. Drink freely.

Or, take masterwort root, half an ounce; and the bark or flowers of dogwood, one ounce; infuse in a bottle of cider, and drink.

Or, take a hand full of ashes of wormwood—infuse in a quart of gin, and shake it well together. Dose, half a wine glass full or more.

Or, take four ounces each of fennel seeds, juniper berries, and orange peel. Simmer in water, strain, and add as much gin as will keep it. Dose, a wine glass full three times a day.

Take half a pound each of horseradish and parsley; one ounce of oxymel of squills; two ounces of Virginia snake root; half a pound of white oak bark; half an ounce of rust of iron. Put the whole in two gallons of sound cider, in a stone jug, and cover it tight. Let it digest, near a fire, for four or five days; then strain and bottle up tight. Dose, half a wine glass full three times a day, fasting.

Take a hand full of rose willow bark, and half a peck of dry chesnut leaves; boil in five quarts of rain water to two; and add a teaspoon full of sulphur. Dose, a teacup full three times a day.

Boil one ounce of seneca snake root to three gills, and strain. Give half a table spoon full every hour till the whole is used, and it will, wholly or partially carry off the water. After which give the following:—Rust of iron, one ounce; masterwort root, pulverized, half an ounce; bark or flowers of dogwood, one ounce; and ginger, half an ounce; all pulverized fine, and mixed for powders. Dose, a teaspoon full three times a day in molasses.

Take one pint of bruised mustard seed; two hands full of bruised

ed horseradish; eight ounces of *lingum vitæ*, and four ounces of Indian hemp root. Infuse in seven quarts of sound cider, and let it simmer on hot ashes till reduced to four quarts. Dose, a wine glass four times a day. Rust of iron may be added.

Apply hot stimulating cataplasms to the feet and legs; as horseradish, mustard seed, Cayenne pepper, &c.

To evacuate the water by urine, infuse thirty or forty cuckle burs, cut fine, in a quart of Holland gin, and give the patient a wine glass full three times a day, if he can bear it. Give blue flag or mandrake physic occasionally; the mandrake may be given in gin, with fennel seed, to prevent griping and wind. For strengthening the system, and evacuating the water moderately, take *lingum vitæ* chips, burdock root, bittersweet, coltsfoot, aniseed, fennel, and Solomon seal—a decoction, for daily drink.

FOR WORMS.

Take skunk cabbage ball, one ounce; whitewood bark, and Indian hemp root, each one ounce; all pulverized fine and mixed. Give from a half to a whole teaspoon full three mornings in succession, before eating.

Or, essence of wormwood, and turpentine dropped on sugar.

Or, the red berries of black alder, made into a syrup.

Or, walnut shucks, in decoction.

Or, old tobacco pipes, pulverized fine, and given in molasses.

Worm syrup.—Take one pound of roots and leaves of the great plantain; four ounces each of unicorn root, black alder bark, and Indian hemp roots; and three ounces of roots and leaves of skunk cabbage. Boil all in two gallons of water to three quarts: strain, and add two quarts of molasses, or four pounds of sugar, and boil to the consistence of molasses.

Children from two to four years of age may take half a wine glass full every night and morning for three days before the full

and change of the moon, which will bring away the worms entire.

FOR THE STONE AND GRAVEL.

The juice of horsemint, and the juice of red onions, are said to be almost a specific cure for the stone.

Or, cleavers, and oil of pumpkin seeds.

Take arsesmart, a large hand full, make a decoction and add a gill of gin. Take the whole in twelve hours. This has discharged a table spoon full of gravel stones at a time.

FOR SORE OR INFLAMED EYES.

Laudanum, brandy, and spring water—a wash.

Or, wormwood tops, with the yolk of an egg.

Or, a fomentation and poultice of hops.

Take stinkweed, or stramonium leaves, bruise them, and wet with milk, and mix with rye flour. Put it in a cloth and lay on.

Take the expressed juice of house leeks, and put it in a new egg shell, with two teaspoons full of honey. Set it on hot ashes and skim off the scum when it rises. Apply to the eye.

Or, take the pith of sassafras and lobelia leaves, each a small hand full, and infuse in one quart of water. Add a gill of the juice of roasted onions, and a table spoon full of honey. Mix. Put a few drops in the eyes, if inflamed, three or four times a day.

Or, take twenty grains of white vitriol, twenty of sugar of lead, six of salt, six of opium, and six of blood root. Dissolve all in one pint of soft water, and use as the above.

To remove the discoloration of a blood shot eye—apply fresh killed flesh to the eye, repeating it every hour till the coagulated blood is dispersed. Or, apply the breast of a live chicken, with the feathers picked off, to the eye.

FOR GENERAL DEBILITY.

The Tonic Tincture.

To invigorate the system.—Take juice of sage, one gill; cinnamon and ginger, each one ounce; fresh angelica root, bruised, one ounce; fresh spikenard root, two ounces; saffron and galangal root, each two ounces; and cloves one ounce. Put all into a brass kettle, and steep in six quarts of Malaga wine for two hours. Bottle it up. Dose, half a wine glass full every morning.

Take comfrey, Solomon seal and raisins, each six ounces: put them in six quarts of water and simmer a while. Then add two ounces of pearly barley; and steep to two quarts. Then turn off the liquor, and add a pint of brandy to two ounces of loaf sugar. Dose, two-thirds of a wine glass full, three times a day.

Debility in old age.—Tar water, morning and evening.

For dyspepsia.—Take one pint of hickory ashes, and a teacup full of hard soot: infuse in one quart of boiling water. Take a little, three or four times a day.

Dyspeptic pills.—Take four ounces each of white oxide of bismuth, extract of gentian, and socotorine aloes; two ounces each of colocynth, Castile soap, and gamboge; oil of cloves, one drachm. Pulverize and mix, for pills. Commence with one every three hours, till the bowels are loosened, and then take one morning and evening. This preparation has been highly celebrated.

FOR RHEUMATISM.

Chronic.—Take half a pound each of sarsaparilla, and lignum vitæ, three ounces of prince's pine, and two ounces of wintergreen: boil in five gallons of water to one gallon. Strain and add three pounds of sugar. Dose, a wine glass full three times a day.

Take one ounce of seneca snake root; two ounces of white pine bark; two ounces of burdock seed; an ounce and a half of prickly ash bark: boil all in four quarts of water to three, and take half a pint, morning and evening, fasting.

This preparation will be found to possess great efficiency.

Take cider brandy, sulphur and hops, for a drink; and cider brandy, sulphur, and Cayenne pepper, for a wash. This has given immediate relief in the most inveterate cases of chronic rheumatism, lumbago, and hip gout.

Or, take sulphur and honey.

Or, essence of hemlock, twenty or thirty drops at a dose, in five-finger leaf tea.

Or, boil nettles soft—foment with the liquor and apply the herbs as a poultice.

For a plaster.—Take laudanum, white turpentine, shoemaker's wax, a beef's gall, and camphor. Digest in spirits enough to cover them, in an earthen pot, covered, till it is thick and sticky—apply as a plaster to the affected part.

Take linseed oil, and fish worms, a good quantity. Stew them till they crisp. Apply the liquor. It is powerful.

Put four ounces each of unicorn root, prickly ash bark, and blood root, bruised, into four quarts of old Jamaica rum, and let it digest by the fire in a jug, for a week, shaking it frequently. Dose, a table spoon full three times a day, increasing to a wine glass full, as the patient can bear it.

Also, drink four times a day, a decoction of half a pound of prickly ash bark, two ounces of toothache bark, one ounce of bittersweet, and four ounces of squaw root; boiled in eight quarts of water to the consumption of four.

Rub the pained parts twice a day, for ten minutes each time, with the following ointment: boil two hands full of the leaves of

skunk cabbage and arsesmart, each, in two pounds of hogs lard, until the leaves crisp; then strain the ointment, while hot, and add one ounce of fine powdered roll brimstone. Apply this, and cover the parts with flannel.

FOR SCROFULA, OR KING'S EVIL.

Frøstweed, or scabious, drank daily, in decoction, and applied as a poultice, has cured numbers in this country.

Take pond lily root and prickly pear, bruise to a pumice; and resin and bees-wax, for a salve.

Also drink, for six weeks, half a pint per day of decoction of devil's bit. Or, the same quantity of ground ivy.

Take the bark of the bayberry root, pulverized, and apply to the lumps three times a day. If it breaks, wash the sore constantly with the decoction, and apply the green leaves. Drink bayberry tea constantly, a cup full four times a day.

Or, drink a tea of the scrofula plant, and apply a poultice of the same.

Take Peruvian bark in coarse powder, and seneca snake root of each two drachms; unslacked lime, four ounces; boiling water, one pint. Grind the lime with the bark and root in a mortar, adding the water by degrees: let it stand six hours, strain off, and give two table spoons full every third hour, with as much sweet milk.

When scrofulous tumors are recent, apply tincture of cantharides with soft linen, so as not to raise blisters. If this does not soften or discuss the tumour, pound garlic to a soft pulp, add a few drops of cream, and apply it as a poultice every night on going to bed. If the tumour breaks, dress it with a strong decoction of wild cherry bark in lime water, applied with lint, and covered with a plaster to exclude the air.

FOR CANCERS.

For a salve.—Press the juice out of poke berries, and set it in the sun till it is evaporated to a slave. Apply.

Or, take the juice of sheep sorrel, and evaporate in the same manner to a salve. Apply to the cancer.

Or, take sheep sorrel, poke leaves, and yellow dock: express the juice and dry in the sun, for a salve.

Or, make a poultice of poke berries, pigweed and green of elder.

Or, apply red onion juice.

Or, make a plaster of alum, vinegar, and honey, equal parts in wheat flour.

Or, take Indian turnip, pulverized, to make a poultice.

Dr. Henry's Cancer Ointment.—Take a pint of juice of the leaves and roots of poke weed—simmer on hot ashes in an earthen pot for a short time; then mix with a pound of fresh butter.—Burn it in a frying pan, and stir in half a pint of finely pulverized gunpowder and keep it over the fire till it flashes once or twice; then set it on hot ashes in a pipkin till it is well incorporated, when it may be put in pots, and covered with alcohol to prevent its moulding.

This ointment, applied twice a day will kill the roots of a cancer.

For a stone cancer.—Take the powder of dry yellow dock root, wet with port wine, and apply it to the cancer, renewing it three times a day.

Make a daily drink of a decoction of yellow dock, and bark of black alder, each a hand full, boiled in four quarts of water to two.

For Drawing Cancer Plasters.—The lead plaster.—Take half a pint of olive oil; two ounces of Castile soap, shaved fine: put them in an earthen vessel over a slow fire till they incorporate. Then add, two ounces of red lead, and two ounces of white lead, pulverized fine. Stir the whole till it becomes the consistence of salve.

Additions as occasion requires—from one to eight drachms of corrosive sublimate to an ounce of the salve; making four drachms the medium.

Or, add the same quantity of white vitriol.

Or, the same quantity of verdigris.

Another.—Take one gallon of urine, and two gallons of oak bark; boil the bark in the urine, till it is reduced to two quarts; then strain, and add—wheat flour, first made into a paste, half a pound; honey, one pound; white turpentine, a pound and a half. Simmer to a salve. Add to this, white vitriol, pulverized, more or less, according to the strength that is required. Change it twice a day.

This plaster is said to draw out cancers as effectually, as any of the cancer plasters in use, and with far less pain.

For a plaster.—Mix soap, blood root, pulverized, and linseed oil, to the proper consistence.

Cancer root and balm of gilead buds, bruised together for a cataplasm. Or, use the cancer root for a wash.

Take a table spoon full of sweet oil twice a day, and a teaspoon full of balm of gilead buds twice a day.

FOR SALT RHEUM.

Take wild cherry bark, tag alder, and green of elder—boil and add salt petre, the size of a walnut to a quart. Take one spoon full morning and evening.

Also—Use a teaspoon full of salt petre in a pint of water as a wash.

Boil one pound of plantain in two quarts of beef brine, and one of urine, for an hour. Wash.

Or, spirits of turpentine. Anoint.

Or, take half a pound each of tar and lard. Simmer in spring water, for an ointment.

Or, marrow of beef bones, black pepper, turpentine, and brimstone. Make an ointment.

Take half a pound each of elder bark, yellow dock root, burdock root, tag alder bark, and lignum vitæ; and one fourth of a pound of sassafras bark. Make a syrup.

Or, make a decoction of mullein, elder, gill-go-by-the-ground, milk weed, pond lilly, and rose willow, for drink.

Or, Castile soap and Maderia wine—make a suds, and drink. Also wash.

Or, a table spoon full of salt petre, dissolved in a quart of water. Dose, a table spoon full twice or thrice a day. Wash with the same.

For cleansing the blood.—Take a hand full each of pleurisy root, rose willow bark, spicewood bark, dock root, plantain root, dandelion root, spikenard, comfrey, and burdock; and a little calamus. Boil to two quarts and add half molasses. Dose, a small glass full three times a day.

FOR ERYSIPELAS, OR ST. ANTHONY'S FIRE.

Elder flowers, in decoction, form a very good laxative in this disorder.

Take Virginia snake root, masterwort root, burdock root, white wood bark, and ginseng root—infuse in brandy. Dose, three times a day.

Or, Castile soap and old Maderia wine—make a suds, and drink.

For a poultice—a rye pudding, boiled, and mixed with soft soap. Lay on three or four times.

FOR SCALD HEAD.

Take a pint of tar; and a quarter of a pound each of spermaceti and mutton tallow. Boil in a quart of water an hour—skim and cool. Anoint.

Or, take dock root, low mallows, plantain, green parsely, sulphur, beeswax, tar, and fresh butter—make an ointment.

Or, take night shade, stramonium, cicuta and yellow dock—make an ointment with tar and lard.

FOR A FELON, OR WHITLOW.

Take the scrapings of a powder horn, wet with brandy, and apply every hour.

Or, take indigo weed and blue flag roots—a poultice.

Or, two ounces each of white hellebone and blue flag, boiled in a quart of milk. Hold the finger in it when hot, and afterwards poultice.

Take a lump of rock salt, the size of a walnut, and roast it in a cabbage leaf in hot embers for twenty minutes—then powder it, and mix it with hard soap for a salve. A little turpentine may be added. Put the finger in weak lie frequently through the day.

Take an ounce of wild indigo root, and a quarter of an ounce of blue flag root. Boil them in urine, or in lie, and hold the finger in the hot liquor, and afterwards poultice with it thickened with rye meal. This is a certain cure.

Take one pint of the strongest drained lie, warm, and dissolve hard soap in it until it is as thick as common soft soap. Then stir in one fourth of a pound of red lead, which will make it a convenient plaster, which must be applied till the wound is thoroughly cleansed.

FOR THE VENEREAL DISEASE.

For Gonorrhœa.—Take one ounce each of spirits of lavender and balsam copavia; half an ounce each of spirits of turpentine, and spirits of nitre; and one fourth of an ounce of Harlæm oil.—Shake well together. Dose, from fifteen to twenty-five drops three times a day.

Another.—Take one ounce of juniper oil, and half an ounce of Turlington's balsam—mix. Dose, from thirty to sixty drops three times a day, an hour before eating, in a tumbler full of water.

Also for an injection—To six ounces of rose water, add half a teaspoon full each of white vitriol and sugar of lead, and half an ounce of Turlington's balsam. Inject thoroughly three times a day, allowing the injection to remain a few minutes if possible.

For the Syphilis—A Sailor's remedy.—Take a table spoon full of gun powder, dissolved in half a gill of urine, every morning. It may also be taken in water.

For a wash for malignant and eating syphilis and other sores.—Black cherry bark, boiled in urine. Wash.

FOR FLUOR ALBUS, OR WHITES.

Take one ounce each of cherry bark and butternut bark, and four ounces of bark of rose willow. Boil to three quarts; and add a quart of Maderia wine, and six ounces of sugar. Dose, two tea-cups full a day. Omit in particular situations.

Or, boil one pound of rose willow root in six quarts of water to three; and add three pints of port wine and four ounces of sugar.

Or, take four ounces of burdock root, two ounces of rose willow bark, one of parsley and two of yarrow tops. Boil in four quarts of water and one of new milk to two quarts. Add sugar, and take a gill three times a day.

For injection—White oak and alum.

Or, Cranesbill, white oak, and highbrier, in decoction.

Take one hand full each of tanzy, rue, coltsfoot, motherwort, fennel and wormwood; and half a pound of raisins. Boil down to two quarts, and add a pint of brandy, and half a pound of sugar.

Or, take one ounce each of white beth root, and pleurisy root; and half an ounce of smellage seeds. Infuse in one pint of bran-

dy. Afterwards, boil the roots to one pint of water, and add to the brandy. Add a little sugar.

Or, take yarrow and plantain roots, and white oak bark—a decoction—inject and drink.

Or, a decoction of white hollyhock, root and flowers.

Or, take egg shells, and scorch till brown; then mix with white turpentine into pills. Dose, one every morning till well.

FOR OBSTRUCTED MENSES.

Horseradish and rust of iron infused in old cider.

Or, Spruce, hemlock, tansy, ergot (a very little,) pennyroyal and oak of Jerusalem—a decoction.

Or, one ounce of calamus and half an ounce of masterwort, in a quart of brandy. Dose, a table spoon full on an empty stomach.

Or, Tanzy beer.

Or, cinnamon, cloves, spikenard and comfrey, cut fine and baked with sugar in an oven.

Or, brook lime, in decoction.

BEARING DOWN OF THE WOMB.

Heartsease and arsesmart, for a decoction. Bathe.

Or, boil flaxseed, and add mullein and heartsease, and lay across the abdomen.

Take white oak bark, beth root, crow foot, and rose leaves, each one ounce. Boil in four quarts of water to two: strain, and add a pint of port wine, and two ounces of pulverized alum.

For injections—Camomile tea.

SALVES, OINTMENTS, PLASTERS, &c.

Strengthening plaster.—Take the whites of two eggs, two hands full of white oak bark, one ounce of resin, one ounce of alum,

and half an ounce of camphor. Boil the bark to half a pint; and add the rest, and simmer to a salve.

Another.—Opium, hemlock gum and camphor. This will also ease pain.

Or, pitch pine and camphor for the backache.

Another.—Take white oak bark and squaw root. Boil, and add turpentine and resin, and simmer to the consistence of a plaster.

Another.—Take comfrey, bruise it soft, and add turpentine and beeswax.

For a burn.—Take stramonium, plantain, mullein, and night shade. Make an ointment.

Another.—Tag alder bark, chesnut leaves, and sumach roots. Boil, and add fresh butter and sweet.

Another.—Boil carrots, strain and simmer in neatsfoot oil.

For a sticking salve.—Take three fourths of a pound of resin, and one ounce each of beeswax and mutton tallow—Melt together, and pour in cold water.

The following is useful to apply to any part of the body, to ease pain, asthma, constriction, &c.

Take a pound of tobacco, and a hand full each, of spikenard and comfrey—boil and strain them. Add two ounces each of resin, turpentine and beeswax, an ounce of camphor, and a small cake of soap. Simmer on a slow fire till all the liquor is gone, and it begins to foam: then stir till cool.

For healing and cleansing.—Take bittersweet, plantain, and life everlasting. Make an ointment.

For cleansing.—Mandrake root, pulverized, and mixed with turpentine, resin, and mutton tallow. This destroys fungous flesh.

For healing.—Take plantain, prickly pear, green of elder, slippery elm, beech drops, bittersweet, yellow dock, comfrey, gravel

weed, spikenard and pond lilly roots. Boil, and make into salve with eight parts of mutton tallow, one part each of resin and beeswax, and a little white turpentine.

Porter's ointment, for limbering stiff joints.—Take one hand full each of rue, sage, wormwood, night shade, life everlasting, green tobacco, and spikenard; and two hands full of Porter's weed. Put them in hogs lard and simmer in brass on hot ashes for seven days. Excellet for limbering stiff joints.

For gout, rheumatism, cramps, contractions of the sinews, &c. Take a young fat dog, kill him, scald and strip off his hair. Then from a small incision, take out the contents of his belly, and put in the cavity two hands full of nettles, two ounces of brimstone, a dozen of eggs and four ounces of turpentine, well mixed together. Then sew up his belly, and roast him before a fire, and save the oil. This is to be applied to the parts affected, warm, and rubbed in by the fire.

Or, the dog being prepared in the same manner, fill his belly with a pint of red pepper, a pint of fish worms, the bark of sassafras roots, and three or four green frogs; roast him in the same manner, and save the drippings. This is a valuable ointment for rhemuatisms, contractions of the tendons, nervous affections, and burns.

That these preparations, although singular, are valuable, no one need doubt.

Take two pounds of tobacco, one pound of resin, one pound of turpentine, one pound of lard, and two ounces of beth root. Boil the tobacco and beth root, and add the other ingredients, simmering them till the water is evaporated.

This salve has been highly recommended for relieving pains in any part of the body; and for curing old sores, fistulas, cutaneous eruptions, &c.

For fetid ulcers on the legs.—Dissolve ten grains of corrosive sublimate in a pint of fresh lime water. Wash the ulcers twice a day with this.

Also, apply a poultice of blood root and beth root, pulverized, and mixed with honey. If the leg be swelled, poultice with slippery elm bark.

For swellings and sores.—Take one pound of the juice of the green leaves of skunk cabbage; one pound of fresh butter, and half a pound of mutton tallow. Put these in an earthen pot and simmer two hours. Anoint twice a day.

For contracted tendons.—Anoint with neatsfoot oil, and bind on flannels dipt in it while hot.

For the itch.—Sulphur, turpentine and hogs lard. Mix, and anoint the soles of the feet, and palms of the hand, and hold to the fire. Take sulphur inwardly.

For tetters.—Take half a pint of brandy, half a gill of tar, and a table spoon full of potash. Melt together, and apply with a feather.

To disperse pain.—Take ground mustard seed, mix with vinegar and flour, and apply as a poultice.

Or, take stramonium, boil and strain: add turpentine, and simmer to a salve. In fits this may be applied to the stomach.

Take stramonium seeds, and bitter sweet bark. Boil and strain: add fresh butter, lard, mutton tallow, beeswax and resin. Simmer to a salve. This will be found an excellent salve for common purposes, on sores.

To scatter a swelling.—Take a double hand full each of wormwood, rue, camomile, and fever few—pound together, and simmer in hogs lard over a slow fire.

For any foul sore.—Take Castile soap, chalk, and Harlæm oil. Triturate them together. Apply.

To cleanse an ulcer.—Fill the sore with wild turnip, pulverized. Or, take blood root and mandrake. Mix, and apply.

For a drawing poultice.—Take bark of the root of sumach. Or, soft soap, sugar and flour. Mix. This may be used to bring deep matter to the surface.

For ague in the breast.—Take six or seven leaves of strong tobacco, and boil it in two quarts of urine. Strain, and add a quarter of a pound each of beeswax, turpentine and resin. Simmer till it is as thick as wax, and apply to the breast.

For wounds from nails, &c.—Take bittersweet, dock, plantain, yarrow leaves, rose leaves, stramonium and elder flowers. Boil, and add, beef's gall, resin, mutton tallow, and beeswax. Simmer on a slow fire.

A cooling salve, for piles, chapped hands, &c.—Take green frogs, green of elder, plantain, parsley and scabious. Simmer in fresh butter, and strain.

For a sore throat.—Take one pint of linseed oil; one fourth of a pound of resin, half a pound of sugar, and half a pound of soap. Melt together; apply externall to the throat.

For a wen.—Milk weed juice rubbed on.

To destroy inclination for Onanism.—Apply camphor to the testicles, by means of a suspensory bag, for two or three weeks. It must not be allowed to remain long at a time, as it might produce decay in the parts.

An excellent plaster for a weak back.—One ounce of Burgundy pitch, camphor, and black pitch, and half an ounce of white turpentine. Melt together for a plaster.

To destroy pimples on the face.—Rub magnesia on a woollen cloth, and rub on the face.

Or, to a pint of lime water, add a tea spoon full each of white vitriol and sugar of lead. Wash.

Foot's salve for fever sores.—Take resin and beeswax, each a pound and a half; hogs lard, three pounds. Simmer the whole together, for three or four hours, and when partly cool, add two ounces of oil of spike.

Common salve.—White turpentine, beeswax and mutton tallow, equal parts; a little honey, and the yolk of an egg. Melt together. Used in fresh wounds, &c.

Anti-phlogistic Plaster —Take the bark of sumach roots, spike-nard, hops, arsesmart, wormwood, and wild indigo roots, or blue flag, of each a double hand full; put them all in an earthen vessel, with two quarts of vinegar, and keep it warm for twenty-four hours, or until the vinegar is half evaporated; then press the roots and herbs, and let the liquid settle; after which add one pound of red lead, and one quart of sweet oil, and simmer them all together over a moderate fire, continually stirring it for five or six hours, or until it will work like wax. Add to it a little previous to its being taken off, two ounces of laudanum, and when taken off, two ounces of camphor, and one ounce of salts of nitre. Continue stirring it till cool; then work it like wax, and put it in boxes for use.

This plaster proves a safe and efficient remedy in all cases of external inflammations, such as biles, bruises, wounds, or any hard or swelled tumours; in old ulcers, fever sores, scrofula, ruptures, ague in the breast, pain in the stomach, for sore throat, or quinsy; is a good strengthening plaster, and is preferable to a blister in moderate cases. It should be spread on thin leather, and changed when necessary.

A strengthening Plaster.—Take one beef's gall; Castile soap, two ounces; burgundy pitch, or hemlock gum, six ounces; brandy, half a pint; camphor and opium, each one fourth of an ounce; spirits of turpentine, one spoon full: all to be simmered down to a plaster, and spread on leather.

VALUABLE RECIPES BY THE AUTHOR.

FOR ANTI-PHLOGISTIC PLASTER.

Take red lead, four ounces; good vinegar, half a pint; sweet oil, half a pint; gum of camphor, one ounce, made fine. Put the lead, vinegar and oil, together in an earthen pot, set the pot into a kettle of coals and boil it until the vinegar is evaporated; then add the camphor and boil it down to the consistence of wax, then take it out and work it like wax.

The above must be stirred constantly while it is over the fire. It is good for inflammations, sores, cancer lumps and ague in the breasts.

For Green Salve.—Take one pound of tallow, one pound beeswax, one pound and a half of resin, one pint linseed oil; add one ounce verdigris to the oil. Melt and compound together and it will be fit for use. It is good in fever sores, and often proves an effectual cure for many sores.

Leaden plaster.—Take of linseed oil, half a pint; neatsfoot oil, half a pint; gum myrrh and resin, each two ounces; beeswax and red lead, each half a pound; simmer over a slow fire for four hours, until it changes color, and when taken off, add one ounce of gum of camphor and it is ready for use. It is a cure for fever sores and all kinds of ulcers, &c.

Strengthening plaster.—Take one beef's gall; Castile soap, two ounces; Burgundy pitch, six ounces; brandy, half a pint; camphor

and opium, each one fourth of an ounce; spirits of turpentine, one spoon full all to be simmered down to the consistence of a plaster, and spread on thin leather.

Sticking plaster.—Take Burgundy pitch and hemlock gum, each four ounces; beeswax, four ounces; and melt them together: then add one quart of linseed oil and two pounds of gold litherage, to be kept over a slow fire until it is hard, and when cool, work it like wax and make it into rolls.

Indian salve.—Take equal parts of hard soap, resin, brown sugar and linseed oil; to be well mixed over a slow fire, and if too soft, add resin. This is good for all kind of open ulcers. If applied to the stomach or breast in case of tightness, it gives much relief; if a stoppage in the head by reason of a cold, apply a small plaster across the nose; or in case of a sore throat, or quinsy, apply a plaster to the throat.

Common salve.—White pine turpentine, beeswax and mutton tallow, equal parts; two spoons full of honey and the yolk of one egg, all to be well melted together. Good for fresh wounds.

Salve for fever sores.—Take of resin and beeswax, each one pound and a half; of hogs lard, three pounds; simmer the whole together for four hours, and when partly cool, add two ounces of the oil of spike. Good for fever sores, tumours, stiff joints, &c.

Green specific cleansing salve.—To three pounds lard add a quarter of a pound of beeswax, two ounces verdigris finely pulverized, and one pound of Scotch snuff; melt and stir till cold. This is a most excellent salve for cleansing and bringing life and action into foul and ugly ulcers. I find much use for this salve.

Bittersweet ointment.—Take equal parts of plantain roots and leaves, bittersweet bark, and spikenard root; boil out the strength, strain, and make it into an ointment with hogs lard. This is a

valuable ointment, and is used in all cases of caked and inflamed breasts.

Saltrheume ointment.—Take blug flag root, river willow, the bark of the root, and skunk cabbage root, of each a hand full; boil in pure water until very strong; then strain out the roots and add half a pound of hogs lard; boil until the water is evaporated.—When cold it is fit for use. It should be applied with the hand by a fire heat.

Rheumatic ointment.—Bittersweet roots, princes pine, sumach bark, yellow archangel, or oxbalm or toad root, and elder roots; boil the whole until the strength is out; strain the liquor, put in hogs lard and fry it down until the water is all out, when it is fit for use.

Precious Ointment.—Take of salt butter, beeswax, hogs lard, sweet oil, honey, mutton tallow and resin, of each one pound; molasses, one gill; brown sugar, two ounces; balsam of fir, one ounce. Put all into a kettle and set it on coals separate from the blaze.—Stir it until it incorporates; then increase your fire and stir it till it separates. When the dross stops rising and begins to settle, try the dross on a clean board; if brittle, like resin, take it off, and when it is cool drain off your ointment, and it is fit for use.

Vegetable ointment.—Take one pound of the cups and blows of robbins plantain; pound them in a mortar, then put them into a frying pan and cause them to swim in fresh butter: simmer them half a day. This ointment must be strained through a thin cloth and secured from the air in a glass dish.

Green Frog ointment.—July and August are the months to make this ointment. Catch green frogs, put them into a stew pan, add their own weight of fresh butter, stew them on coals half a day, with coals on the lid of the pan, and be careful not to burn it. Put this ointment into a glass vessel and it is fit for use.

Becket's Fever sore salve.—Take two pound of hogs lard, resin, twelve ounces; six ounces of beeswax, one ounce of oil of spike: simmer the first three together, then put in the oil of spike and it will be fit for use.

Blistering plaster.—Take an equal weight of mutton tallow, yellow wax, Burgundy pitch and Spanish flies: mix the flies reduced to fine powder, with the other ingredients, previously melted and removed from the fire.

Another method is, to take six ounces Venice turpentine, two ounces of yellow wax, one ounce of pulverized mustard, and three ounces of pulverized flies: melt the wax, and while it is warm add the turpentine, taking care not to evaporate it by too much heat. After the turpentine and wax are sufficiently mixed, sprinkle in the powders, continually stirring until it becomes cold.

Common plaster.—Take of litharage, one part; olive oil, two parts; add water; boil them constantly until the oxide and oil unite into a plaster.

This plaster is generally applied to slight wounds of the skin; it keeps the part soft and warm and defends it from the air which is all that is necessary. Its principal use is to serve as a basis for other plasters.

Adhesive plaster.—Take of common plaster, four ounces; Burgundy pitch, two ounces; melt them together and stir them well till cold. This plaster is principally used for keeping on other dressings, and for retaining the lips of a wound.

Anodyne plaster.—Melt one ounce of adhesive plaster and while it is cooling, mix with it one drachm of powdered opium, and the same quantity of camphor previously rubbed up with a little oil.

This plaster will generally give ease in pain, especially of the nervous kind.

Gum plaster.—Take of the common plaster, four pounds; gum ammoniac and galbanum, strained, each half a pound: melt together and add of Venice turpentine, six ounces. This plaster is used as a digestive, and likewise for discussing indolent tumours.

Compound Burgundy pitch plaster.—Take of pitch, two pounds; gum galbanum, one pound; yellow resin and yellow wax, each four ounces; and oil of mace one ounce; to the pitch, resin, and wax melted together, add the gum and oil.

Stomach plaster.—Take of gum plaster, half a pound; camphorated oil, one ounce and a half; of Cyenne pepper, one ounce: melt the plaster and mix it with the oil; then sprinkle in the pepper previously reduced to fine powder. An ounce of this spread upon soft leather and applied to the stomach, will be of service in flatulencies arising from hysterics and hypocondriach affections.

Warm plaster.—Take of gum plaster, one ounce; blistering plaster, two drachms; melt them together over a gentle fire. This plaster is useful in the sciatica and other fixed pains of the rheumatic kind. It ought to be worn some time, and renewed twice a week.

Iron strengthening plaster.—Take of the common plaster, twenty-four parts; fine resin, six parts; yellow wax, and olive oil, each three parts; red oxyde of iron, eight parts; rub the oxyde with the oil, then add the other ingredients, previously melted together. This plaster spread on leather is used as a common strengthening plaster in weakness of the large muscles, as of the loins.

Smith's blistering plaster.—Take of yellow wax, pine resin and olive oil, each two ounces; cantharides, or Spanish flies in powder, three ounces: to the wax, resin and oil, previously melted together, add the cantharides, carefully stirring the whole until cool.

Blistering proves highly disagreeable to some people by occasioning strangury. As a substitute, take a small quantity of the blistering salve and mix it with the Burgundy pitch plaster and lay

it on the part affectd and let it remain as long as it will stick.—
'This will act for many days and never fails to ease pain and remove causes.

Simple salve.—Take six ounces of olive oil, three ounces of white wax, one ounce of spermaceti: melt them together. This is used for dressing sores and ulcers.

Corn salve.—Take two ounces of the powder of savin leaves, half of verdigris, half an ounce red percipitate: mix them well together in a mortar, then add two ounces of hogs lard, mix well together, spread it on a thin cloth and bind it on the part affected and it will effect a cure.

Lip salve.—Melt together two ounces of white wax, three ounces spermaceti, seven ounces of the oil of almonds, one drachm of balsam Peru, and one ounce alkunet root, put it in a linen rag, pour your salve into boxes or gallipots, and cover tight with bladder or white leather. This you will find a fine salve for sore lips.

OINTMENTS AND LINEMENTS.

Red Precipitate.—Take eight ounces of fresh butter, and four ounces of resin, melt together and when partly cool, add one ounce of red precipitate and half an ounce of pirits of turpentine. This is a cure for the itch.

Sulphur ointment.—Mix six ounces of sulphur with twelve ounces of hogs lard, and to this mixture add one ounce of the oil of lavender. This is good for infants that have sore heads, and is a sure cure for the itch.

Yellow Basilicum ointment.—Take of beeswax, white resin and frankincence, each a quarter of a pound: melt them together over a slow fire, then add of hogs lard, one pound. Good for cleansing and healing wounds.

Good ointment.—Take of palm oil, two pounds; olive oil, one pint and a half; yellow wax, half a pound; Venice turpentine, a quarter of a pound: melt the wax in the oils, and then add the turpentine. It may be used for anointing inflamed parts.

Issue ointment.—Mix half an ounce of Spanish flies, finely pulverized, in six ounces of yellow basilicum ointment. This is intended chiefly for dressing blisters, in order to keep them open during pleasure.

Tar ointment.—Take of tar, fifteen ounces; yellow wax, five ounces: melt together. This is a cure for scald head.

Vegetable nerve ointment.—Take of bittersweet, the bark of the root, one pound; camomile and mullein, each one pound of the flowers; and of wormwood, one pound: buise them and add a gallon of soft oil or lard. Simmer over a slow fire until the herbs and roots become crisped, then add one pint of spirits of turpentine, strain and bottle for use. This is good for bruises, sprains, and all hard swellings, tumours, contracted tendons, burns, cuts, pains in the joints, sides, &c.

Sovereign ointment—For salt rheume, &c.—Take one ounce of quick silver, one of aquafortis mixed in an open vessel until the quick silver disappears; then mix it well with half a pound of hogs lard previously melted. Anoint with the same until it proves a cure for the salt rheum and scald head.

Three parts of hogs lard and one of this ointment, will cure chronic ophthalmia, by rubbing it on the eye lashes three times a day.

Duc worm ointment.—Two teaspoons full of the scrapings of the outside of a brass ketttle; one of gun powder, one of sulphur; add mutton tallow the bigness of a hens egg, and the yolk of one egg, two spoons full of tar, and half a pint of rum; to be simmered until the rum is evaporated. Anoint the parts affected until cured.

Rupture ointment.—Take of thyme, sweet plantain, low malice, poplar bark, white oak bark, and hemlock bark, equal parts, to be simmered in hog's lard. Anoint around the rupture frequently until cured.

Rheumatic ointment.—Take of white hellebore, 1 ounce; hogs lard, four ounces; extract of life root, one ounce: mix and make into an ointment for cutaneous diseases, and it will prevent mortification, and remove inflammations.

Ointment to relax shrunk cords.—Take half a pound of hogs lard, add a small hand full of metalet green; stew it well together, strain it off, add to it one ounce of rattle snakes grease, one ounce of olive oil, and ten drops of the oil of lavender: mix well together, and anoint three times a day and rub it in well with the hand. A precious ointment this, and all who use it will find it so.

Itch ointment.—Take one gallon of alcohol, one pound of gum myrrh pounded fine, one ounce of Cayenne pepper, put the alcohol into a jug that will hold about two gallons; add the myrrh and pepper to it and shake together; put the jug into a kettle of warm water, boil them, take the jug out and let it cool; then strain it off from the pepper and myrrh and add to the alcohol as much spirits of turpentine as there is alcohol left; mix, and it is ready for use. Anoint three times a day. This cures when nothing else will.

Compound vegetable black nerve salve.—Take spikenard root, the bark of the sweet apple tree root, the bark of the root of mooswood, one fourth pound of each; add water and boil down to a small quantity; then add yellow pine turpentine enough to make it into a salve when boiled down.

This is a noted salve for fresh wounds, especially where cords and nerves are cut off; in such cases, greasy ointments should not be used.

Liniment for burns.—Take equal parts of sweet oil, fresh linseed oil and lime water, shake them well together so as to form a liniment. This is found to be an excellent and proper application for scalds and burns.

Volatile liniment.—Take of sweet oil, one ounce; of spirits of hartshorn, half an ounce: shake them together. This is good in cases of quinsy and sore throat; it seldom fails of removing the complaint.

Liniment for the Piles.—Take of palm oil, one ounce; sweet oil, one ounce; yellow wax, one ounce; laudanum, half an ounce: mix them with the yolk of an egg, and work them well together. This you will find a good liniment.

The king of liniments.—Take four ounces of olive oil, four ounces of oil of almonds, half an ounce of hemlock, half an ounce of fire weed oils, twenty ounces of alcohol: mix and shake well together and it will be fit for use. Good in all inflammations, swellings, stiff joints, shrunk cords, &c.

Tennant's Universal liniment.—Take of olive oil, four ounces; camphor gum, one ounce; alcohol, eight ounces; oil of spike, half an ounce; british oil. half an ounce: mix, and it will be fit for use. This is good in all inflammations, sprains, &c.

Welch liniment, or wash.—Take one pint of fourth proof brandy, one ounce of linseed oil, one ounce of camphor gum, one ounce of laudanum, half an ounce of oil of spike, half an ounce of British oil: mix together. It is good in all rheumatic complaints.

Cooling liniment.—Take of olive oil, one ounce; of lime water one ounce: mix by shaking together. This is an excellent application for burns.

Fire liniment.—Take eight ounces of courier's oil, one ounce of

linseed oil, two ounces of pigs foot oil, two ounces of spirits of turpentine: mix with twelve ounces of spirits of camphor; shake together. This is good for burns and chilblanes.

EYE SALVE.

Take bitter-sweet, one ounce of the bark; one ounce of live-forever, one ounce of coolwort, one ounce of brook liverwort; add one quart soft water: boil down until the strength is out of the vegetables, then boil the liquor down to one gill, then add eight ounces of fresh butter, mix, and it will be fit for use. It is good for inflamed eyes: to be applied on the outside of the eyelid on going to bed.

Cure all plaster.—Take linseed oil and neetsfoot oil, each one gill; put the oils into an earthen pot; boil on coals until the water is out; add two ounces of camphor and gum myrrh, made fine, (be careful that it does not boil over,) then add one pound of resin, made fine, when melted, add two ounces of red lead and two of white, sifted and made as fine as possible. If you find this too hard to spread, add a little olive oil, or if too soft add resin.

EYE WATERS AND WASHES.

For dull sight.—Drop in three drops of the juice of a rotten apple, six times a day.

Films on the eye.—Mix the juice of gill-go-over-the-ground with a little honey and three grains of rock salt: drop it in morning and evening. It will remove the film from the eye.

Humours in the eye.—Apply a few drops of refined sugar melted in brandy, to the eye: or boil a hand full of the leaves of bramble brier, with a little alum, in one quart of spring water. Drop this frequently in the eye. This is also good for canker, &c.

For inflamed eyes.—Apply as a poultice, roasted rotten apples,

warm, or roasted carrots, with the pith taken. This hardly ever fails. Or, wormwood tops with the yolk of an egg is good.

Another.—Take an equal quantity of the juice of ground ivy, celendine and daisies; add to it a little rose water and loaf sugar. Drop a drop or two of this into the eye and it will take away all manner of inflammation, smarting, spots, webs or any other disease of the eye.

Eye water.—Take six ounces of rectified spirits of wine, dissolve one drachm of camphor gum in it; then add two small hands full of dried elder flowers and let it steep twenty-four hours.—This is superior to all other eye washes now in use.

BALSAMS.

Turlington's balsam of life.—Take of balsam Peru, half an ounce; blasam tolué, one ounce; gum storac, one ounce; gum guaiacum, one ounce; gum benesom, one ounce and a half; hepatic aloes and frankincense, each two drachms; and dragon's blood, 1 ounce. Let the gums be bruised, and put the ingredients into one quart of proof brandy, and put it in a warm place, and let it be shaken frequently for seven or eight days; it is then fit for use.

This balsam is used as an external application to heal fresh wounds, or bruises. It is likewise employed to remove coughs and asthmas. It is also said to ease the colic, cleanse the kidneys and internal ulcers. A dose, from twenty to thirty drops.

This preparation has long been celebrated under different names, such as Frier's balsam, Jesuit drops, &c.

Balsam of honey.—Take gum benzoin, one drachm; balsam tolué, two drachms; saffron, half an ounce; honey, four ounces; alcohol, a pint: digest. Dose, one drachm three times a day. This is good for coughs, colds, &c.

Vegetably balsam.—One pound sugar candy dissolved by heat

in white wine vinegar, and then evaporated to one pint; during which operation you must dissolve as many garlicks as you can with it.

Balsam of hoarhound.—Take of hoarhound and licorice, each three pounds; water, two quarts: steep, and add to the liquor six quarts of brandy; camphor, one ounce; and half an ounce of opium; flowers of benzoin, one ounce; and of honey, three and a half pounds. Good in lung complaints, cough, &c.

Compound balsam.—Take of balsam of fir, two ounces; balsam tolué, one ounce; British oil, one ounce; white pine turpentine, one ounce; honey, two ounces: compound and take twelve drops for pains in the chest, or pains caused by strains. It is a never failing cure for the above pains and sprains.

Compound pitch-pine balsam.—Take of spruce gum, one ounce; tamerac gum, one ounce; angelica root, one ounce; golden seal, one ounce; and add to these, two ounces of the raspings of a pitch pine knot, and one ounce of spikenard root, fine, then put all into one gallon of good rum. This is the best of all compounds to create an appetite, increase strength, and for general debility, indigestion and dispepsia. It must be taken before eating; say take one wine glass full three times a day.

PILLS.

Compound pills.—Take of asafoedita, galbanum and myrrh, each eight ounces; oil of amber, one ounce: beat them into a mass with molasses. These pills are anti-hysterics.

Opium pills.—Take of opium, one ounce, and seven ounces of extract of licorice, Jamaica pepper, two ounces; soften the opium, separate with alcohol, then beat them into a pulp and add the pepper reduced to powder; then form the whole into a mass. This

affords a mass under which the patient cannot perceive that he is taking opium, but each pill contains half a grain of opium.

Another of pills.—Take of Castile soap, eight ounces; camphor six ounces; opium, four ounces: powder the several articles separate, then mix and beat them into a mass, and form the pill.

Stomach pill.—Take extract of gentian, two drachm; oil of mint, 30 drops; powdered rehi and vitriolated tartar, each one drachm, and honey sufficient: compound for pills.

Compound pills of Rhubarb.—Take of Rhubarb in powder, one ounce; aloes, six drachms, myrrh, half an ounce; oil of peppermint, half a drachm; mix them into a mass with the syrup of orange peel. This is a laxative used in dyspeptic affections to obviate costiveness. Two of these pills are taken at bed time.—These are good pills.

Lee's pills.—Take of gum gamboge, one ounce; aloes, half an ounce; seammory, half a drachm; venetian soap, two drachms; nitrate of potash, one drachm; alcohol sufficient, or tincture of aloes with myrrh, a sufficient quantity to make it into a mass for pills.

Hooper's Pills.—Aloes, one ounce; gum gamboge, one drachm; myrrh, half an ounce; carbonate of iron and calcined sulphate of iron, each three drachms; cloves pulverized, half a drachm; alcohol sufficient to make into pills of common size. Dose, from three to five.

Sulphuric liniment.—Sulphuric acid, three drachms; oil of turpentine, four ounces; sweet oil, ten ounces: mix, and you will find it good; in all cases of the itch, infallible.

MISCELLANEOUS AND PATENT COMPOUNDS.

Godfrey's cordial.—Take opium, eight grains; molasses, eight

ounces; alcohol, four ounces; oil of sassafras, three drops; distilled water, one pint: digest three days. Dose, two drachms three times a day. This is used as an anodyne for infant children.

British oil.—Take sulphurated oil, one ounce; rock oil, half an ounce; purified oil of amber, two drachms; oil of turpentine, four ounces: mix. Dose, from fifteen to twenty drops morning and evening.

Harlæm oil.—Take sublimed sulphur, two ounces; linseed oil, one pound; oil of amber, two ounces; oil of turpentine, a sufficient quantity. Boil the sulphur in the linseed oil until it is dissolved, then add the oil of amber, and as much of the spirits of turpentine as shall make it of proper consistence.

Dover's powders.—Take of the root of ipecac, pulverized, and opium, each one ounce; sulphate of potash, eight ounces: mix them together into a fine powder. The medium dose is fifteen grains. It is celebrated as a sudorific, and is much used.

Steer's opodeldoc—the hard kind.—Take the best windsor soap, two and a half pounds; oil of rosemary, 5 drachms; oil of thyme, five drachms; camphor, seven and a half ounces; water of amonia, one and a half pounds; water, one pound; and alcohol, eleven pints. Dissolve the soap and camphor in the alcohol, with a gentle fire, and when dissolved, add the water of amonia and water when cooling the oils. The bottles must be filled while lukewarm, and not sealed until the opodeldoc is perfectly congealed.

Bard's opodeldoc, liquid.—Take venecian soap, two ounces; camphor gum, one ounce; brandy, one pint. The soap must be dissolved in the brandy by a gentle fire, and after its solution, the camphor is to be added.

Cajeput Opodeldoc.—Take of almond soap, two ounces; alcohol, one pint; camphor gum, one ounce cajeput oil, two ounces.

First dissolve the soap and camphor in the alcohol, and when the solution is about to congeal, add the oil cajeput. Shake them well together and put into bottles to congeal. This compound is a great improvement on the opodeldocs in general use, and in cases of rheumatism, paralytic members, chilblanes, enlargements of the joints, and indolent tumours, where the object is to rouse the action of the absorbent vessels, and to stimulate the nerves to action. It is a very valuable external remedy for most affections of the chord.

Sneezing powders.—Take of dried leaves of asarabacca, one ounce; lavender flowers and marzorem leaves dried, each two drachms: rub them together to a powder and put in a well stopped vial. A few grains of this powder snuffed up the nose excites sneezing and a copious discharge of mucus.

Huchan's tincture of bark.—Take of peruvian bark, two ounces; orange peel, one ounce and a half; Virginia snake root, three drachms; saffron, one drachm; cochineal, two scruples; proof spirits, twenty ounces: digest fourteen days and strain. As a corroborant and stomachic it is to be given in doses of two or three drachms, but when employed in fevers, it must be given in larger quantities.

The black drops.—Take of opium, half a pound; vinegar three pints; nutmeg, one ounce and a half; saffron, half an ounce: boil and add four ounces of sugar and one ounce of yeast; digest seven weeks; then place it in the open air until it becomes a syrup; decant, filter and bottle it up, adding a little sugar. Dose, from five to ten drops.

Godfrey's cordial.—Dissolve half an ounce of opium, one teaspoon full of oil of sassafras in two ounces of high wines, then mix four pounds molasses with one gallon of boiling water, and when cold, mix both together. This is used to soothe the pains

of children, and for three shillings, you may make what would cost at the shops, ten or twelve dollars.

Bateman's pectoral drops.—Castor, two ounces; opium and oil of annis, each one ounce; camphor, 8 ounces; proof spirits, ten pints, and pulverized valerian and cochiniel, one ounce: digest for ten days and strain, and it will be fit for use. This is far preferable to paregoric, for children. From ten to thirty drops is a dose.

Black lozengers.—Take extract of licorice and gum arabic, each four ounces; lump sugar, eight ounces: beat to a powder and make into a mass with water, so as to form lozengers. They are to soften humours, and may be taken at pleasure.

Swinton's daffy.—Take of jalap root, eight ounces; senna leaves twelve ounces; annis seeds, two pounds; carraway seeds, six ounces; brandy, four quarts; alcohol, five gallons: mix all together, let it stand in a well stopped vessel, three weeks; then strain, add thereto eight pounds of molasses. Dose, from one to four table spoons full, varied according to the age and strength of the patient. This is good in all cases of the colic. You can add cochiniel to collar, if you choose: mix it with water when you take it, warm water would be much the best.

Squire's elixir.—Take opium, four ounces; camphor, one ounce; cochiniel, one ounce; oil of sassafras, one ounce; tincture of snake root, one pint; annis seed, four pounds; musk, four ounces: mix the oil with one quart of alcohohol, and boil the other ingredient, or steep it in two gallons of water; then add the oil and alcohol after straining. This is good in all laxitive states of the bowels and indigestion. Dose, from six to twenty drops three times a day.

Smith's British oil.—Take of oil of turpentine, eight ounces; Barbadoes tar, four ounces; oil of rosemary, four ounces.

Styptic tincture.—Take copperas, fine, one drachm; proof spirits and a decoction of oak bark, each one pound. This is good to stop blood.

Fomentation of poppies.—Bruise 4 ounces of dried poppy buds, and then boil them in six pints of water, until one quart only remains. This is to be applied to inflamed parts where there is much pain.

Ulcer poultice.—Boil fresh carrots, until they can be beaten up into a pulp. This is efficacious in cancers, as well as all other ulcers.

For diarrhœa or looseness.—Take of powdered rehi or rhubarb, ten grains; powdered chalk, with opium, one scruple: make into four doses, to be taken one at a time, night and morning, in milk.

But if the above does not have the desired effect, or if the complaint proves obstinate, take of the peruvian bark in powder, two ounces; powder of chalk with opium, fifteen grains. Take this quantity three times a day. First a cathartic must be given of fifteen grains of rehi.

Tooth powder.—Take two ounces of charcoal and two ounces of peruvian bark, mix both together and make fine. This is a most excellent compound to preserve the teeth; it gives a natural lustre to the teeth, cleanses the breath and helps preserve health. Good teeth is one of the richest gifts of nature.

Thompson's No. 6.—Take one gallon of fourth proof brandy, one pound of gum myrrh, two ounces cinnamon, two ounces of Cayenne pepper, put it into a stone jug, boil five minutes, and let it stand till cold. It is good in rheumatic and nervous affections, and colic.

Tennant's salt rheum and feversore wash.—Take two ounces of crocus martus, three ounces of white vitriol, mix together: to

prepare for use: take one table spoon full of the composition and mix with one quart of rain water. This is good for salt rheum, fever sores, and all eruptions of the skin: It is also good for scalt head, &c.

Doct. Lovel's pills for diarrhœa.—One ounce of opium, two ounces of rehi, two ounces of Castile soap, two ounces of blood root; compound with molasses and make into pills. From one to three for a dose. Good in all relaxative states of the bowels.

For Elixer *pro compositus*.—Take aloes, pulverize one and a half ounce; gum myrrh, half an ounce; sulphur, half an ounce; saffron, half an ounce; whiskey, one pint: digest the myrrh for two days, then add the rest, and shake well together and it is fit for use. Dose, from half to two teaspoons full two or three times a day, to be taken half an hour before eating. Good in all cases of dyspepsy.

For Rickets.—Take two ounces of egromony, two ounces water lime, two of pollypod, two of Solomon seal, two of Shepperd's sprouts, two of maiden hair, two of sarsaparilla, two of buck's horn, grated, and two of knot grass. Take four ounces of these articles put into twelve quarts of soft water, boil two hours, then strain and boil the liquor down to one quart; then add one pound of brown sugar, filter and bottle, and it is fit for use. It is good in all cases of rickets. Dose, one table spoon full morning and evening, or more if the patient can bear it. Add one pint of gin to the syrup if it is warm weather, that it may keep.

A cure for the gravel.—Take one ounce of gum arabec and two drachms of salts of nitre, put it into two quarts of best gin; take from four spoons full to half a wine glass full three times a day, say one hour before eating. This will effect a cure in most cases of gravel.

A cure for Epileptic Fits.—Take gum myrrh, one ounce; sul-

phur, one ounce: oil of olives, one gill; and half a pint of spirits of turpentine. The sulphur, myrrh, and oil, must be mixed and melted together, and beat until red, then add the turpentine, after taking it from the fire. Dose, from two to six drops once or twice a day, as the patient can bear, or according to the age. It must be given in half a table spoon full of proof brandy, or more, as the habits of the patient will allow. This you will find one of the best medicines offered to the world for the epileptic fits, and is an infallible cure.

The above recipe is worth ten times the price of the book.

Cure for the dropsy.—Take one ounce of dwarf elder bark, one ounce of sassafras bark, one ounce of queen of the meadow, one ounce of knoll liverwort, one of blue vervine leaves: boil them in one gallon of water down to one quart, then strain, and put into it one pint of good Holland gin and half a pint of molasses; then add two ounces of cream of tartar. Dose, for an adult, six tea-spoons full three times a day. This is a good syrup in all dropsys of the chest and bowels.

Hull's physic.—Take gum of aloes, two ounces; gum myrrh, half an ounce; seamony, one fourth of an ounce; nutmeg, cloves, cinnamon, ginger, mace, saffron, and soot, each one ounce: all to be finely pulverized; then mix the composition with one gallon of good gin, and add one pound of molasses. This is to be taken in the morning before eating, say one table spoon full for an adult. This is good for a family medicine, and every family ought to keep it on hand and give it to their children.

Vegetable anti-plogistic plaster.—Take sumach roots, spikenard, hops, wormwood, wild indigo roots, or blue flag roots, of each two ounces, put them into an earthen pot, add to it two quarts of vinegar: keep it warm for two days, or until it is half evaporated, then press the roots and herbs and let the liquor stand and settle, after which add two pounds of red lead, one quart of sweet oil, and

boil them all together over a slow fire, continually stirring for five or six hours, or until it will work like wax, then add to it a little previous to take it off two ounces of laudanum, and after you take it off, add two ounces of gum of camphor, and one ounce of spirits of nitre, keep stirring it until cool, then work like wax, and put it into boxes for use. It is good in all cases of inflammations, tumours, burns, wounds, &c.

Cure for cancers—a cancer wash.—Take of corrosive sublimate, one ounce; indian turnip, two ounces; take one ounce of the composition, put it into a vial add to it two ounces of soft water, shake it and mix it well, and apply it around the edges of the cancer with a feather twice a day, morning and evening. After applying the wash, put on a plaster of brown diaculum, and keep it on constantly, only removing it to apply the wash.

A tea for the blood during the application of the above wash.—Take green ozier and red ozier, moos and witch hazel barks, of each equal quantities, and make into a tea for constant drink before and after you commence the use of the wash.

For pills to take in the time of the application.—Take butternut bark of the roots, one ounce; beef's gall, two ounces. Take the bark and boil out the strength, and boil it down to an extract; then add the gall and make into pills the size of common pills. Take one in the evening before going to bed, and for morning, take the gall and mix with chalk and pill; one of these pills to be taken in the morning before eating.

For the solution to be taken during the use of the cancer wash, tea, pills, &c.—Take one teaspoon full of antimony, two of blood root, two of wild turnip; steep in one quart of water. Take one table spoon full, or less, if it tends to sicken take it once a day.—And for acute pain during the use of the medicines, use laudanum internally.

The foregoing will cure nine cases out of ten of cancers, where it has not broke and commenced running or eating. This recipe is worth fifty dollars to every doctor in the country. O, what a blessing it is, and how thankful we ought to be to think that God has provided means to cure all diseases that the human family are subject to.

Take half a pound of blue flag root, half a pound of elecampane root, boiled in two gallons of water, to one quart, add to it after straining, one pint of molasses. Let the patient take half a gill three times a day.

For canker rash.—Take white beth root, pulverize very fine; give in a small dose three times a day. Make a tea of the same for a constant drink, and for the fever give rattle snakes gall, say three grains at a time, once a day.

This you will also find an infallible cure for the canker.

To make the best Turlington's balsam of life.—This balsam of life is a most excellent medicine in consumptive complaints, weakly females in all stages of life. For a fevery stomach let the patient take sixteen drops in a small glass of wine, in the morning, fasting. It strengthens the stomach, and removes the fever. It is good for pain in the stomach or side, and nourishes weak lungs and helps hooping cough. It is made thus.

Gum benzion, four ounces; gum storax callintee, three ounces; balsam tolue, ~~one~~ ^{one} ounce; gum aloes sucutrine, one ounce and a half; gum albanum, one ounce and a half; gum myrrh, one and a half ounce; roots of angelica, two ounces; tops of johnswort, two ounces. Pulverize all these together, put them into three pints of rectified spirits of wine in a glass bottle; let them stand in the spirits four weeks in a moderate heat, shake it once a day, strain it off and it is fit for use. If the gums are not all dissolved, add a

little more spirits, and shake it, and let it stand as before, or until it is dissolved. Then bottle it up and cork it tight so that the air will not get to it.

Rose cancer plaster.—Take canker lettuce, (called parola,) one pound; scoke root, one pound; wild parsnip, or commonly called muskquash, half a pound; the root of the yellow dock, one pound; eye bright, one pound; put all into two gallons of soft water, boil down to two, strain, then boil down to an extract, then add half a pound of fresh butter and six ounces of resin; work all together like wax.

Doct. Thompson's composition powder.—Take bayberry, bark of the roots, two pounds; inner bark of young hemlock, one pound; ginger, one pound; Cayenne pepper, two ounces: all reduced to a fine powder, well mixed and sifted through a fine sieve. For a dose, turn a teaspoon full of the powder into a teacup full of hot water, add a little sugar and take as hot as you can bear.

The above is said to be better without the hemlock than with it. This is good in all colds, and must be taken on going to bed to promote perspiration, and when taken the patient should be warm in bed. This may be used by young or old, male or female, with perfect safety, in all stages of life. Thompson says in nervous affections you must add a little nerve powder.

You must give Thompson the credit for the above recipe, yet it is good.

A remedy for weakness in the urinary vessels of children that cannot hold their water.—For those that are so troubled, take good red willow bark, two ounces; red beach bark, the inner bark, two ounces: pound them fine and add to them one quart of good port wine, let it steep twenty-four hours, and then give the patient one table spoon full twice a day. But if the patient is three or four years old, add a little more, as he can bear.

The above is an infallible cure.

Doctor Tennant's universal and infallible Worm powder.—Take one ounce of bog bean, one ounce; of the inner bark of white popple, two ounces; of black alder berries, or the bark of the roots, if the berries are not to be had, half an ounce; of ipecac or commonly called Bowman's root, or by Thompson, bitter root, half an ounce; of mandrake root, two ounces; of sulphur, one ounce; of the roots of the Indian turnip, one ounce: make fine, and it will be fit for use. A dose for a child six years old, one grain; for an adult, two grains, to be taken three mornings in succession every full and change of the moon, until it effects a cure. This will destroy all worms even to the tape worm.

In one case the author administered this specific worm powder to a patient, and brought from him a tape worm that measured fifteen feet. Readers, please try this medicine; it is simple, but surely it is worth a trial. Let physicians take notice of this, and use it, and they will find it an invaluable medicine.

Barton's Worm powders.—Take sage powdered fine, mix with honey: give a teaspoon full for a dose three times a day. Then take one pint of milk, sweeten with honey, add a piece of allum the size of a walnut. Give four spoons full three times a day.

Then take a piece of steel, heat it in a smith's fire, when hot put on to it a roll of brimstone, melt the steel, hold it over water and it will drop off in round balls, pound the balls fine, mix the dust with molasses and give the child half a teaspoon full night and morning, fasting.

Williams' Worm powders. Take wild mandrake roots dried and powdered, mix with honey, and give a child of one year old, as much of the powder as you can hold on a sixpence. Take it four mornings in succession, fasting.

Second, If a child is taken with worm fits, give as much pargoric as the child can bear; it will turn the worms and ease the child.

Third, To prevent children from having worms they should be allowed to eat freely of raw onions.

Fourth, Salt and water is good to turn worms, and after you turn the worms, give a little of the flour of sulphur mixed with molasses or honey. This will often bring away the worms without resorting to other means.

Fifth. Take the bark of witch hazel, or spotted alder, bark of the roots is preferable; steep it in a moderate heat until the strength is out of the bark, or until it is strong. A dose for a child one year old, is a table spoon full three times a day; a child older can take more. It is a safe and sure remedy for worms, or worm fits: at least, so says Doct. Williams.

To make laudanum.—Take opium, two ounces; spirits, two pounds: digest seven days. Dose for an adult, from fifteen to thirty drops.

Paregoric elixer.—Take opium, 1 drachm; benzoin, 1 drachm; oil of anniseed, one drachm; camphor, two scruples; spirits, two pounds: digest for ten days and strain. Dose for an adult, from twenty to one hundred drops; for children, from five to twenty drops.

Cough powder.—Take spikenard, liferoot, black snake root, white root, the roots of white snake root, elecampane roots, Indian turnip, skunk cabbage roots; an equal quantity of each, pulverize and mix. A teaspoon full to be taken several times a day in a gill of hot water, with a little sugar added to it.

To make the same into a syrup.—Take half a pound of this mixture and three quarts of cold water, put both into a vessel and make tight; put it into an oven previously made warm, and let it bake until half of the water is gone; then strain and add four ounces of sugar and a pint of brandy; bottle tight for use. A small glass may be taken five or six times a day. This is good in all cases of lung complaints; it will in the first stages of this disease,

stops its progress and saves life or a long bed of sickness, and a heavy doctor bill.

Doct. Williams' cure for a wen.—Take clean linen rags, burn them on a pewter dish and gather the oil on the pewter with lint, cover the wen with it twice a day. Continue it for several days and the wen will drop out without further trouble.

For dysentery, or bloody flux.—Take one peck of mullein leaves, pound them and add a little water, then press out the juice and scald and cleanse it, then add one quart of good brandy and four ounces of loaf sugar. Let the patient drink one table spoon full once an hour.

Or, take blood weed, or horse-tail, camomile and comfrey roots, boiled together and sweeten with molasses. Drink often of this.

Or, take sweet flag root boiled in milk and water, and sweetened with loaf sugar. Drink often of this, say, a gill at a time, and spread a plaster, made of opium, camphor, hemlock, pitch, &c.—Lay it on the spine near the lower end. Drink tea made of white pine bark, spikenard and everlasting.

Tennant's vegetable cancer costick.—Take one bushel of yellow ash bark, one half bushel bayberry bark, one pound rue: put all into an iron kettle, dry and burn it to ashes, and leach the ashes with one gallon of water, then add to the lie one pound of stone lime; add four ounces of the small turnip that you will find in the fall of the year, below the wild turnip, they are attached to them, and get their strength from them. They must be pulverized and added to the lie; then boil it down to one gill, but if too strong, reduce it, bottle it, and it is fit for use.

Apply it to the cancer with a feather. This is good for all cancer tumours. It is far superior to the luner costick, and certainly one of the best cancer medicines ever discovered. Please try it, you that are afflicted with cancers, and you will find that the fields of nature afford a means to save you many an hour of pain.

Morrison's universal Hygean pills warranted to cure all, and to perform all operations, *except surgical*, that the human family are subject to. I would not myself, however, recommend those pills as possessing qualities superior to all other medicines in use, but the author, from whom we take the recipe, has *dared* do it. The following is the recipe:

No. 1. Take beef's gall, dried, one ounce; aloes, myrrh, rhubarb, gamboge, jalap, golden seal, mandrake and blood root, of each one ounce; make fine, and add one ounce each of puerized nutmeg, cloves, cinnamon, allspice, and ginger. Mix, and sift through a fine sieve, then take elder blows and make a tea, wet the composition and make into common sized pills, roll them in powder of mandrake, rhubarb and golden seal.

Dose, from six to twenty-five.

No. 2. Take dried gall, aloes, myrrh, rhubarb, gamboge, jalap, and golden seal, of each one ounce; and of nutmeg, allspice, ginger, cloves and cinnamon, of each one table spoon full; and of blue flag, ipecac and mandrake, each one ounce. Mix all together and pill as the above. Dose, from five to fifteen.

Recipe for Medicamentum.—Take one pound of *lignum vitæ*, one pound of dried *sassaparilla*, four ounces of licorice stick, four ounces juniper berries, one ounce of senna, four ounces of comfrey root, four ounces of spikenard root, four ounces of burdock root, three ounces of gum myrrh and three ounces of aloes. The gum myrrh and aloes must be made fine, the rest must be boiled in eight quarts of water until the strength is out, then strain and add six ounces of sugar and the myrrh and aloes, while hot. Dose, two table spoons full twice a day for an adult, and less for a child, or as he can bear.

This is one of the best cathartics that can be given in common bilious cases. It will operate thoroughly and leave the stomach free from bilious corruption.—[Doct. McIntosh.]

Welch Medicamentum.—Take two ounces juniper berries, two of licolice stick, two of aloes, two of gum myrrh, two of rheubarb, two of cinnamon, and add to these two quarts of water; steep till the strength is out, then add three pounds of sugar and two quarts of gin.

Dose, two spoons full three times a day, or until it operates as a cathartic. This is said to be the celebrated Welch Medicamentum, made by Doct. Roberts, and which has effected great cures in bilious complaints, general debility, rheumatic affections, &c. Let those, therefore, who are afflicted with these diseases give it a trial, and perhaps they will find it beneficial.

Cough drops.—Take saffron, one ounce; blood root, half an ounce; licorice root, one ounce; elecampane, one ounce; wild turnip, one ounce; the bark of sumach roots, two ounces; and lobelia, to ounces: put into three quarts of liquor, (gin is the best,) keep it warm for forty-eight hours, then press and strain and settle, add to it one teacup full of the juice of roasted onions and one quart of lime water, with one pint of tar water, and one pint of honey. Mix all and it is fit for use. Dose, from a quarter to half a wine glass full three times a day. Good in colds, coughs and consumptions.

Cough drops No. 2.—Take sweet oil, one pint; raw flaxseed oil, half a pint; honey, half a pint; of spirits of turpentine, one ounce; of balsam of life, one ounce; licorice ball, half an ounce: all to be simmered until well mixed. Dose, from ten to sixty drops three times a day. Good for colds, coughs, consumptions, &c.

Female bitters.—Take of crane's bill, four ounces; comfrey, four ounces; beth root, four ounces; motherwort roots, orange peel and the bark of the roots of white wood, of each four ounces, and one ounce of liferoot, one ounce of cinnamon, to be broken to a coarse powder; then add to it three quarts of good wine sweetened with loaf sugar. Dose, half a wine glass twice a day.

Good in all cases of female debility, flower albus and an immoderate flow of menses, &c.

Ague bitters.—To one quart of wine add two table spoons full of blood root, two of wild turnip, two of mandrake: all made fine. Dose, one table spoon full as often as the stomach will bear it.—This is good in agues at all stages except when the fever is on, then it should be omitted for a time, but as soon as the fever is off it should be resumed.

Anodyne carminative drops.—Take angelica root, four ounces, or two ounces of the seeds; white snake root, or the imported valerian, two ounces; callamus, half an ounce; annis, dill and fennel seeds, one ounce each; catnip and motherwort leaves, each a large hand full; pleurisy root, four ounces: all to be put into an earthen vessel with two quarts of whiskey; keep it in a moderate heat for twenty-four hours, then press and strain, and add to it one ounce of laudanum and half a pound of loaf sugar. It may be colored with red sanders, and when settled bottled for use. Dose, for children, from ten to sixty drops: for adults, from one to four teaspoons full in a teacup of warm water, and may be repeated once in four or eight hours. It cures pain, creates a moderate appetite and perspiration, and produces refreshing sleep. It is good for children, removes flatulency and wind colic, and is also good in hysterics and nervous affections of females.

Bathing drops.—Take one quart of alcohol, add one ounce of hemlock oil, one ounce of gum guaicum, pulverized, one ounce of gum myrrh, and two teaspoons full of Cayenne pepper: shake well and bottle for use.

For rheumatic pains, or pains in the head, stomach, or elsewhere, bathe the parts affected every night and morning; it may be taken internally at the same time, in water or on sugar. Dose, from ten to sixty drops.

Rheumatic drops.—Take one table spoon full of fine mandrake root, one table spoon full of black cohush, and a large hand full of princes pine, and add to it one quart of good wine, and bottle, shake well and it will be fit for use. Dose, from one to four tea-spoons full three or four times a day. Good in chronic rheumatism, gout, and numbness in the limbs, &c.

Stimulating clyster.—Take common salt and brown sugar, of each two ounces; olive oil, or castor oil, four ounces; warm water, one quart: mix and use.

Emollient clyster.—Take flax seed tea and milk, of each one pint: mix them.

Another.—Take warm water, half a pint; molasses the same: mix them.

Another.—Take sweet oil and brown sugar, of each two ounces: mix them. If a teaspoon full of laudanum be added it is better. It forms an anodyne clyster.

For bilious colic.—Take of warm water, one pint; put it into a bottle, then take a pipe, fill it with tobacco and blow the smoke into the water, and give as a clyster.

Pomatum.—Take one pound and a half beefs marrow, cinnamon essence, one ounce; white wax, half a pound; burgamot, one ounce: mix, and roll for use.

Styptic tincture.—Take coperas made fine, one drachm; proof spirits and a decoction of oak bark, each one pound. This is used for stopping blood.

Hiera Piera.—Take of aloes, one pound; half a pound of ginger, winter bark, one fourth pound; pulverize each separate and then mix all together. One ounce of this may be put into one pint of spirits. Good physic.

Strengthening female pills.—Take carbonate of iron (iron rust,) one ounce; Castile soap and pulverized gum myrrh, of each two drachms; beat them into a mass with molasses, make common sized pills, and take two or three twice a day.

Salt rheume Ointment.—First, cleanse the blood by making a decoction of dogmachy bark, sweet fern, and ground hemlock, (not ciuta,) add one pint of gin to a quart of the decoction, and take a glass three times a day. After taking this one week, make an ointment by simmering six green frogs in one pound of fresh butter, two hours. With this frequently anoint the part affected.

Green vegetable strengthening plaster.—Take of life root, bittersweet, scabish, sweet clover, liveforever, green ozier, sweet elder, and poppy, of each, equal parts: boil in a sufficient quantity of soft water for two hours, strain, evaporate slowly to an extract, in a water bath, or in shallow vessels in the sun, and preserve for use. Then take of yellow resin, three pounds; mutton tallow, and beeswax, of each, half a pound; gum galbanam, four ounces: melt over a slow fire; add of verdigris, one ounce, pulverize, and previously dissolved in one ounce of mutton tallow, and two ounces of the above extract, rubbed fine; stir freely until well mixed, and pour the whole into a vessel of water, work it like wax and make into rolls.

This is a very efficacious plaster for lame backs, pain in the side, burns, scalds, ulcers and rheumatism, and is useful as an adhesive dressing to fresh wounds.

For making Indian physic.—First method.—Take a quantity of mandrake roots, boil them in pure water until the strength is out; then strain, settle, and boil it down gently until it is hard enough to pill. This kind operates very powerfully in about seven hours after taken.

Second method.—Get your quantity of mandrake roots, as above

to half a bushel of roots, add witch hazle twigs, burdock leaves, sweet elder roots, dwarf elder roots, and cloves, a hand full of each; boil, settled and strained as above, and brought to the consistence of pills.

Third method.—Physic for dropsical complaint.—Take two thirds mandrake root, one third dwarf elder roots, boil and pill as above.

The first produces a disagreeable sensation in the stomach, sickness, dizziness in the head, and sometimes griping in the bowels, but very effectually cleanses the bile from the stomach—as much so as an emetic. It produces action in the system, removes obstructions in the liver, and eases pains in the head, sides, and joints.

The second is equally efficacious in all the above complaints, and is more mild in its operation, but very often will operate thirty-six hours; and will very often throw off a fever.

The third is the best for the dropsy that is yet found out. It operates more rapidly than the second kind, in any other disease except the dropsy, which requires more physic on account of the torpid state of the vessels.

After removing any complaint by physical operation, and the fever is wholly subsided, the patient wants bracing up with cordials, stimulating astringents, such as coltsfoot, white snake root, senicle, spikenard, comfrey, wintergreen, princes pine, life root, queen of the meadow, St. Anthony's cross, red clover, Indian clover root, or even root, nerve root, dragon's claw, pollypodium, white oak buds and witch hazel twigs.

Many of these things put into wine and sweetened with loaf sugar, make an excellent cordial, but many times it will be necessary to check the astringent qualities by adding something of a physical nature, such as yellow dock roots, blue violets, plantain, beach leaves, elder roots or berries, mandrake or blood root.

HERBS GOOD IN CONSUMPTIONS.

Burdock roots, in syrup, in decoction, or in wine. The juice of hoarhound in milk, or with honey. Juniper berries, ten or twelve eaten in the morning, fasting. Life root steeped in cold water, spirits or wine: an excellent remedy. Gensing in syrup, or in wine, or the powdered roots in molasses. St. Anthony's cross, steeped in cold water. Sanicle, in syrup, wine or decoction. Nerve root, in wine, in spirits, or in powder with honey. Hound's tongue, steeped in cold water. Lobelia, in powder, in very small portions; take three times a day, for thirty days. Blood root, in powder or decoction: excellent in pulmonary complaints. Meadow plantain, in syrup. Three spoons full of the juice of sage, taken fasting, with a little honey, will stop spitting of blood by those that have the consumption. Solomon seal root, in syrup. Sassa-parilla root, spikenard, noble liverwort, brook liverwort and lungwort, are all good in sprup, with pine moss, pitch pine bows, sumach roots, the bark of the root of many berry bush, in decoction, or syrup. The root and flowers of the wandering golden rod steeped in cold water; a notable remedy this and has been known to cure the consumption.

VEGETABLE MATERIA MEDICA.

Under this head is comprised simple and prepared medicines, such as are used in the cure of diseases; to which is subjoined a short view of their natural, medical and pharmaceutical history, with the virtues of each. It would be an unnecessary task to enumerate and describe all the articles that have acquired the name of medicine, but I trust that a sufficient collection will be found in this work, not only to subserve all the useful purposes of the physician, but also to enable him to understand the nature and proportion of most of the remedial articles now in use, even though he may dissent from the employment of them.

In explaining the operations of medicines, and classing them according to these operations, it is to be regarded as a first principle that they act only on the living body. The presence of life is accompanied with peculiar properties, and with modes of action inexplicable on mere mechanical or chemical principles. Substances acting on the living system no doubt produces effects referable to these; but the changes they produce are also always so far modified as to be peculiar in themselves, and regulated by laws exclusively belonging to organized matter.

Medicines, in general, operate by stimulating the living fibre. This proposition cannot, however, be received in an unlimited sense. From the exhibition of different medicines, very different effects are produced, which cannot be satisfactorily explained from the cause assigned—the difference in the *degree* of stimulant operation. They differ in *kind* so far, that even in the greater number of cases, one remedy cannot by any management of dose or

administration be made to produce the effects which result from action of another.

It is therefore necessary to admit some modifications of the general principles above stated, and the following are perhaps sufficient to afford grounds for explaining the operations or remedies, and for establishing a classification of them sufficiently just and comprehensive.

1. Stimulants are not to be regarded as differing merely in the degree of stimulant operation which they exert. An important distinction exists between them, as they are more or less diffusible and permanent in their action. A stimulus is termed diffusible, which, whenever it is applied, or at least in a very short time after, extends its action over the whole system, and quickly produces its full exciting effect. A diffusible stimulus is generally also transient in its action; in other words, the effect, though soon produced quickly ceases. There are others, on the contrary, which, though equally powerful stimulants, are slow and permanent. These varieties, which are sufficiently established, serve to explain the differences in the powers of a number of the most important medicines; and they lay the foundation for the distinction of two great classes, narcotics and tonics, with their subordinate divisions of antispasmodics and astringents, both consisting of powerful stimulants; the one diffusible and transient, the other slow and permanent in their operation.

II. There is a difference between stimulants, in their actions being directed to particular parts. Some, when received into the stomach, quickly act upon the general system; others have their action confined to the stomach itself, or, at least, any further stimulating effect they may occasion is slow and inconsiderable; while a third class consists of those which operate on one part, often without producing any sensible effect on the stomach or general system. Some thus act on the intestinal canal; others on the kidneys, bladder, vessels of the skin, and other parts; the affection they excite in these, being the consequence, not of any stimulant

operation equally extended over every part, but of one more particularly determined. This difference in the action of stimuli is the principal foundation of the distinctions of medicines into particular classes. Cathartics, for instance, are those medicines, which, as stimuli, act peculiarly, on the intestinal canal: diuretics, those which act on the secreting vessels of the kidneys: emmenagogues, those which act on the uterine system; diaphoretics, those which exert a stimulant action on the vessels of the skin. With these operations, medicines, at the same time, act more or less as general stimulants, by which each individual belonging to any class is thus rendered capable of producing peculiar effects; and many of them, by a peculiarity of constitution in the patient, or from the mode in which they are administered, frequently act on more than one part of the system, by which their effects are still farther diversified. Medicines, when thus determined to particular parts, are sometimes conveyed to these parts, in the course of the circulation; more generally their action is extended from the stomach, or part to which they are applied, by the medium of the nervous system.

III. Medicines, besides acting as stimuli, sometimes occasion mechanical or chemical changes in the state of the fluids or solids, by which their action is more or less diversified. These operations of medicines were formerly supposed to be more extensive than they really are; and many absurd explanations were deduced from the supposed changes which the solids and fluids underwent in disease. Though these notions are now exploded, it must still be admitted that changes of this kind take place in the living system. Chemical changes in particular, there is reason to believe, very frequently modify the actions of remedies; and some very obvious operations of this kind, as well as others of a mechanical nature, serve as distinctions for establishing several particular classes.

These observations point out the principles on which the arrange-

ment of the articles of the *Materia Medica*, from their medical operations, may be established.

Those stimulants which exert a general action on the system, may first be considered. Of these there are two well marked subdivisions, the diffusible and the permanent; the former corresponding to the usual classes of narcotics and antispasmodics; the latter, including likewise two classes, tonics and astringents. In these there is a gradual transition passing into the one from the other, from the most diffusible and least durable stimulus, to the one most slow and permanent in its action.

The next general division is that comprising local stimulants; such are the classes of emetics, cathartics, emmenagogues, diuretics, diaphoretics, expectorants, sialagogues, errhines, and epispastics. These all occasion evacuation of one kind or another, and their effects are in general to be ascribed, not to any operation exerted on the whole system, but to changes of action induced in particular parts.

After these, those few medicines may be considered whose action is merely mechanical or chemical. To the former belong diluents, demulcents, and emollients. Althelminotics may perhaps be referred with propriety to the same division. To the latter, or those which act chemically, belong antacids or absorbents lithontriptics, escharotics, and perhaps refrigerants.

Under these classes may be comprehended all those substances capable of producing salutary changes in the human system. Several classes are indeed excluded which have sometimes been admitted; but these have been rejected, either as not being sufficiently precise or comprehensive, or as being established only on erroneous theory.

The subdivisions of these classes may sometimes be established on the natural affinities existing among the substances arranged under each; on their chemical composition; their resemblance in sensible qualities; or, lastly, on distinctions in their medicinal vir-

tues more minute than those which form the characters of the class. In different classes one of these methods will frequently be found perferable to any of the others.

TABLE OF CLASSIFICATION.

A. GENERAL STIMULANTS.

a. Diffusible.

{ Narcotics.
{ Antispasmodics.

b. Permanent.

{ Tonics.
{ Astringents.

B. LOCAL STIMULANTS.

Emetics.
Cathartics.
Emmenagogues.
Diuretics.
Diaphoretics.
Expectorants.
Sialagogues.
Errhines.

C. CHEMICAL REMEDIES.

Epispastics.
Refrigerants.
Antacides.

D. MECHANICAL REMEDIES.

Lithontriptics.
Escharotics.
Anthelmintics.
Demulcents.
Diluents.
Emollients.

CLASS I.—NARCOTICS.

This first division of the preceding classification, is that comprehending those stimulants, the action of which is general over the system. The first class of this division comprises those which are highly diffusible, and at the same time transient in their oper-

ation. This corresponds with the common class of narcotics or sedatives, usually defined. Such substances as diminish the action and powers of the system, without occasioning any sensible evacuation. The definition is imperfect, as it does not include that stimulant operation which it is acknowledged they equally produce.

When given in a moderate dose, narcotics excite the functions both of body and mind: the force and frequency of the pulse are increased, muscular action is more vigorous, and hilarity or intoxication are induced. These symptoms, after continuing for some time, are succeeded by those of diminished action: the pulse becomes slower, is full and soft, the body is less sensible to impressions, and less capable of voluntary exertion, and the mind is inactive. This state terminates in sleep. When it ceases, there remains a degree of general debility, marked by sickness, tremor, and oppression. By a large dose, debility, without previous excitement, is occasioned, and the consequences of an immoderate quantity are delirium, paralysis, coma, and convulsions, sometimes terminating in death. These are the general effects considerably diversified, however, as arising from different narcotics, and varied by other circumstances. Habitual use considerably diminishes that power.

These medicines act primarily on the stomach, whence their action is conveyed by nervous communication to the general system. Externally applied, they exert their usual action, though with less force. Directly applied to the muscles of animals, they first stimulate them to contraction, but ultimately exhaust their irritability.

As the medicines belonging to this class diminish the actions of the system, when given even in small doses, their primary operation was generally considered as of the depressing kind: and the stimulant effects which occasionally appeared to be produced by their exhibition, were ascribed to what was termed the re-action of the system, or the exertion of that salutary power supposed to belong to the living body, by which every noxious application is re-

sisted and thrown off. They were therefore considered as *directly* sedative, and *indirectly* stimulant.

Precisely the reverse of this doctrine was likewise advanced. As their exciting effects were those which appeared first, and were succeeded by those of debility and as the first were produced from a small dose, while the others were occasioned when the dose was comparatively large, these substances were regarded as direct stimulants, capable of exciting the actions of the system; and the symptoms of debility which they so frequently produced, were considered as arising from that exhaustion of power, which, according to a general law of the system, always follows increased action suddenly raised and not kept up. They were regarded, therefore, as *directly* stimulant, and *indirectly* sedative, and the peculiarities of their action were ascribed to their rapid and transient stimulant operation.

If, in investigating this subject, we merely contrast these two theories, little doubt can remain of the superiority of the latter.—The suppositions of their being a power in the living system, fitted to resist any noxious agent, and of such a power acting before the deleterious effects have taken place, and thus retarding or preventing their production, are improbable, and unsupported by any satisfactory proof. Since the stimulant operation of narcotics always preceeds the symptoms of languor and debility which they produce; it is the direct conclusion, that these latter are the consequences of the former. The analogy between narcotics and other substances, admitted to be stimulants, but which are less rapid in their operation, is also in many respects so direct, as to prove similarity of action. And their utility in several diseases, in which they are employed as stimulants, is scarcely consistent with the opinion, that they possess a real depressing power. Some doubt, however, is still attached to the theory that they are direct stimulants, from the fact, undoubtedly true, that the sedative effects of narcotics are frequently disproportioned to their previous stimulant operation, allowing even in such cases, for its rapidity

and little permanence; and the proposition, though apparently somewhat paradoxical, is perhaps just, that these substances are at once capable of stimulating the living fibre, and, independent of that stimulant operation, exhaust to a greater or less extent, by *direct* operation, the living power. The effects of certain chemical agents on the living system, as lately ascertained, appear to support some conclusion of this kind.

Narcotics being capable of producing either stimulant or sedative effects, may be practically employed with very different intentions. Either operation is obtained chiefly by certain modes of administration. If given in small doses, frequently repeated, the actions of the system are excited, and kept up. But if given in larger doses, at distant intervals, the state of diminished action and lessened sensibility is obtained. As stimulants, they are employed in various diseases of debility: in intermittent fever, and continued fevers of the typhoid type; in gout, hysteria, &c. As sedatives, they are used to allay pain and irritation, to procure sleep, and diminish secretions; hence their applications in spasmodic and painful diseases, in hæmorrhagies and increased discharges. In an inflammatory state of the system, the use of some of them is not altogether without danger from their stimulating effects.

CLASS II.—ANTISPASMODICS.

This class might perhaps be considered as a subordinate division of narcotics. They have similar virtues, being used principally to allay pain and inordinate action, and they differ only in not producing that state of general insensibility and diminished action, which arises from the action of narcotics. This might be supposed owing merely to a difference in power; yet there seems also to be something more than this, since they produce no such effect in any dose, and since, although they are so much inferior

to narcotics in this respect, they are equally powerful in repressing inordinate and irregular muscular action. This difference may be explained, on the supposition that they are equally powerful stimulants, but are less diffusible, and more durable in their action, or that they are powerful diffusible stimulants, possessing little direct power of diminishing the excitable principle. Considered in this point of view, they will form an intermediate class between narcotics and tonics; and experience shows, that they partake of the properties of both; several narcotics and tonics being frequently used as antispasmodics.

From the name given to this class, their effects may be easily understood. Spasm is an irregular contraction of a muscle; sometimes the contraction is permanent, at other times it alternates with relaxation, but is still irregular. Such medicines as obviate and remove such affections, are termed antispasmodics.

Spasm may arise from various causes. One of the most frequent, is a strong irritation continually applied; such as dentition or worms. In these cases, narcotics prove useful, by diminishing irritability and sensibility. Sometimes spasm arises from mere debility; and the obvious means of removing this is by the use of tonics. Both narcotics and tonics, therefore, are occasionally useful as antispasmodics, such as opium, camphor, and ether, in the one class, and iron, calomel, and Peruvian bark, in the other.—But there are farther, several substances which cannot be with propriety referred to either of these classes, and to these the title of antispasmodics may be more exclusively appropriated.

CLASS III.—TONICS.

By tonics, are understood those substances whose primary operation is to give strength to the system. Their operation is not mechanical, as was once conceived; they act not on the simple solids

increasing their tension or tone, but on the living fibre, and merely powerful stimulants, permanent in their operation. By producing a gradual excitement, they give vigor to the actions of the system, and as that excitement is gradually produced, it is in like manner gradually diminished, and the habitual stimuli continuing to operate, diminished action does not succeed. Where tonics, however, are given in excess, are used unnecessarily, or for too long a time, they weaken the powers of life.

Tonics act primarily on the stomach, the action they excite in that organ being communicated generally by the medium of the nerves to the rest of the system. Some of them, however, are received into the mass of blood.

The immediate effects of a tonic, given in a full dose, are to increase the force of the circulation, to augment the animal heat, promote the various secretions, or moderate them when morbidly increased, quicken digestion, and render muscular action more easy and vigorous. By some of them, however, these effects are very slowly induced.

The affections of the system in which the tonics are employed, must be obviously those of debility; hence their use in the greater part of diseases to which mankind are subject.

This class may be subdivided into those individuals derived from the mineral, and those from the vegetable kingdoms.

TONICS FROM THE MINERAL KINGDOM.

These are in general more local in their nature than the vegetable tonics, they do not operate so speedily, and seldom occasion considerable excitement.

TONICS FROM THE VEGETABLE KINGDOM.

The tonic power in vegetables is intimately connected with certain sensible qualities, with their bitterness, astringency, and aromatic quality, all of them perhaps possessing these qualities, though

in each, one may be more predominant than the other. The purest bitters, astringents, and aromatics, possess also more or less of a tonic power. Of these divisions, the pure astringents form a distinct class; the remaining tonics may be arranged according as the bitterness or aromatic quality is predominant in them.

The stimulant operation of the purer bitters is little diffusible, and very slow in its operation; their effects are principally on the stomach and digestive organs, to which they communicate vigor, though they also act in some degree on the general system, and obviate debility, as is evident in particular from their efficacy in intermittent fevers, in dropsy, and gout, and from their debilitating effects when used for too long a time.

Aromatics are more rapid and diffusible in their action; they quicken the circulation, and augment the heat of the body. Their action has little permanence; hence, in medicine, they are employed either as mere temporary stimulants, or to promote the action of bitters or astringents.

From these different modes of action of bitters and aromatics, it is evident, that a more powerful tonic will be obtained from the combination of these qualities than where they exist separately. The most powerful tonics are accordingly natural combinations of this kind.

AROMATICS.

The substances belonging to this subdivision of the vegetable tonics, stimulate the stomach and general system, augment the force of the circulation, and increase the heat of the body. They are scarcely sufficiently permanent in their action to be used by themselves, as tonics; but they always promote the action of bitters and astringents, and are used with advantage to obviate symptoms arising from debility of the stomach or intestinal canal.— Their aromatic quality in general resides in an essential oil, which each of them varies in flavor, pungency, and other sensible qualities, but which is nearly alike in its chemical properties. It

is soluble entirely in alcohol, is sparingly soluble in water, and is extracted from them by distillation.

CLASS IV.—ASTRINGENTS.

Astringents have been usually considered as substances capable of obviating or removing increased evacuations, by their power of constringing or condensing the simple solids, of which the vessels are formed, and this by an action entirely chemical or mechanical, the same as that which they exert on dead animal matter.

Allowing, however, these substances to possess some power of this kind, their effects as remedies cannot be explained merely from its exertion. Increased evacuations cannot be ascribed to mere mechanical laxity of the solids; and their removal cannot be referred to simple condensation of these solids. Neither can it be admitted that active substances may be applied to the system without occasioning changes in the state of the living powers. Many substances, arranged as astringents, occasion very considerable alterations in several of the functions; they produce effects too which cannot be solely referred to a condensing power, and therefore in all the changes they produce, part at least of their operation must be referred to their acting on the powers peculiar to life.

For reasons of this kind, some have denied the existence of such remedies, and have considered those which usually receive the appellation of astringents, merely as stimulants, moderate and permanent in their action; in other words, as *tonics* of inferior power. But though there be a great analogy between these two classes in their effects, and probably in their mode of operation, there is also a very obvious difference; the most powerful astringents, that is, substances which immediately restrain excessive evacuations, being much inferior in real tonic power to other substances having little astringency; while there are powerful tonics

or medicines capable of removing debility, which do not with any uniformity produce the immediate effects of astringents.

Perhaps astringents may be regarded as moderate, permanent stimulants having their stimulant operation modified by their power of condensing the animal fibre by a mechanical, or rather a chemical action. That they exert a stimulant operation, is proved by their power of curing intermittent fever, and other diseases of debility; and that they possess a constringing quality is evident, not only from the sensation they excite on the tongue, but is proved by the change they produce in animal matter. If these combined actions be exerted on the fibres of the stomach, the change produced, it is possible, may be propagated by nervous communication to other parts of the system.

Some narcotics, as opium, have in certain cases, effects apparently astringent. These are, where increased discharges arise from irritation, in which, by diminishing irritability, they lessen the discharge; but such an operation is altogether different from that of real astringents.

As remedies against disease, astringents may sometimes, from their moderate stimulant operation, be substituted for tonics.—They have thus proved successful in the treatment of intermittent fever; and in all cases of debility, they seem to be serviceable, independent of their power of checking debilitating evacuations.

It is, however, for restraining morbid evacuations, that astringents are usually employed. In the various kinds of hæmorrhage, &c. they are frequently employed with advantage, though their power is also often inadequate to stop the discharge. In diarrhœa they diminish the effusion of fluids, and at the same time give tone to the intestinal canal, and thus remove the disease. In the latter stage of dysentery they prove useful by a similar operation. In profuse sweating, and in diabetes, they are frequently sufficiently powerful to lessen the increased discharge; and in those kinds

of inflammation termed passive, and even in certain cases of active inflammation they are applied with advantage as topical remedies.

It is an obvious caution, that astringents are not to be used to check critical evacuations, unless these proceed to excess.

Astringents may be subdivided into those belonging to the vegetable, and those belonging to the mineral kingdom, which differ very considerably from each other in their operation.

VEGETABLE ASTRINGENTS.

Astringency in vegetables seems to be connected with a certain chemical principle, or at least with some peculiarity of composition, since vegetable astringents uniformly possess certain chemical properties. The astringency is extracted both by water and alcohol, and these infusions strike a black color with any of the salts of iron, and are capable of corrugating more or less powerfully, dead animal matter.

Chemical investigations have accordingly discovered two distinct principles in the vegetable astringents, one or both of which may probably give rise to the astringent property. One of these, the Galic acid, is distinguished by its property of striking a deep black color with the salts of iron: the other, the tanning principle, or tannin, is characterized by its strong attraction to animal gelatin, with which it combines, and forms a soft ductile mass, insoluble in water. These may be separated by a solution of animal jelly, which unites with the tannin, and leaves the gallic acid pure.

As both these principles exist in all the stronger vegetable astringents, it is probable that the corrugating property by which the action of these substances, as medicines, is modified, depends on their combination, especially as, in their action on dead matter, the change produced on the animal fibre by the gallic acid, promotes the combination of that fibre with the tanning principle.

MINERAL ASTRINGENTS.

Of these, the principal are the mineral acids, especially the sulphuric, and the combinations it forms with some of the metals and earths.

LOCAL STIMULANTS.

CLASS V.—EMETICS.

Emetics are substances capable of exciting vomiting, independent of any effect arising from the mere quantity of matter introduced into the stomach, or of any nauseous taste or flavor.

The effects of an emetic are, an uneasy sensation in the stomach, with nausea and vomiting. While the nausea only is present, the pulse is feeble, quick and irregular, and the countenance pale: during vomiting the face is flushed, the pulse is quicker, and it remains so during the intervals of vomiting. When the operation of vomiting has ceased, the nausea goes off gradually; the patient remains languid, and often inclined to sleep; the pulse is weak, but becomes gradually slow and full, and the skin is commonly moist.

The general nature of vomiting is sufficiently evident. The peristaltic motion of the stomach is inverted, the diaphragm and abdominal muscles are called into action by association, and the pylorus being contracted, the contents of the stomach are forcibly discharged. The peristaltic motion of the upper part of the intestinal canal is likewise frequently inverted.

How this peristaltic motion is thus inverted, it is difficult to explain. The substances which have this effect no doubt possess a stimulant power, but the effect is by no means produced in proportion to the degree of stimulant operation exerted on the stomach, and it has not been explained how such an operation can invert the usual motion.

Dr. Darwin considers vomiting as the effect, not of increased action from the operation of a stimulus, but of diminished action, arising from the disagreeable sensation of nausea. This being induced, the usual motion is gradually lessened, stopped, and is at length inverted, which gives rise to the phenomena of vomiting.

The susceptibility of vomiting is very different in different individuals, and is often considerably varied by disease.

Though nausea generally accompanies vomiting, this is scarcely a necessary connexion: some emetics acting without occasioning much nausea, while others induce it in a much greater degree than is proportioned to their emetic power.

The feeble and low pulse which accompanies vomiting, has been ascribed to direct association between the motions of the stomach and those of the heart, or it may be owing to the nausea excited, which being a disagreeable sensation, is equivalent to an abstraction of stimulus.

It is supposed also, that a sympathy exists between the stomach and the surface of the body, so that the state of the vessels of the one part is communicated to the vessels of the other. Hence vomiting is frequently followed by diaphoresis.

Emetics powerfully promote absorption.

They often occasion increased evacuation by the intestinal canal, more especially when they have been given in too small a dose to excite vomiting, an effect arising from their stimulating power.

Lastly, several of the effects of vomiting have been ascribed to the agitation of the body, and to the compression of the viscera, by the action of the diaphragm and abdominal muscles.

Emetics are employed in many diseases.

When any morbid affection depends upon, or is connected with over-distention of the stomach, or the presence of acrid indigestible matters, vomiting gives speedy relief. Hence its utility in impaired appetite; acidity in the stomach; in intoxication, and where poisons have

From the pressure of the abdominal viscera in vomiting, emetics have been considered as serviceable in jaundice arising from biliary calculi obstructing the hepatic ducts.

The expectorant power of emetics, and their utility in catarrh and phthisis, have been ascribed to a similar pressure extended to the thoracic viscera.

In the different varieties of febrile affections, much advantage is derived from exciting vomiting, especially in the very commencement of the disease. In high inflammatory fever, it is considered as dangerous; and in the advanced stage of typhus it is prejudicial.

Emetics given in such doses as only to excite nausea, have been found useful in restraining hæmorrhage.

Different species of dropsy have been cured by vomiting, from its having excited absorption. To the same effect, perhaps, is owing the dispersion of swelled testicle, bubo, and other swellings, which has occasionally resulted from this operation.

The operation of vomiting is dangerous or hurtful in the following cases: where there is determination of blood to the head, especially in plethoric habits; in visceral inflammation; in the advanced stage of pregnancy; in hernia, and prolapsus uteri, and wherever there exists extreme general debility.

The frequent use of emetics weakens the tone of the stomach.

An emetic should always be administered in the fluid form. Its operation may be promoted by drinking any tepid diluent or bitter infusion.

The individual emetics may be arranged under those derived from the vegetable, and those from the mineral kingdom.

CLASS VI.—CATHARTIC.

Cathartics are medicines which quicken or increase the evacuation from the intestines or which when given in a sufficient

dose, excite purging. They evidently act by augmenting the natural peristaltic motion, from their stimulant operation on the moving fibres of the intestines, whence the contents of the canal are more quickly propelled. The greater number, or perhaps all of them, seem likewise to stimulate the extremities of the exhalent vessels terminating on the external surface of the intestines, and hence the evacuations they occasion are not only more frequent, but thinner, and more copious.

Besides these immediate actions the stimulant operation of cathartics appears to be more or less extended to neighboring organs, and hence they promote the secretion and discharge of the bile, and other fluids usually poured into the intestinal canal. It is also exerted on the stomach, so as to occasion a more quick evacuation of the contents of that organ by the pylorus.

Besides the differences between individual cathartics in quickness, slowness, or other circumstances attending their operation, there is a general difference in the mode in which they act, from which they may be, and usually have been ranked under two divisions. Some operate mildly, without exciting any general affection of the system, without even perceptibly stimulating the vessels of the intestines, and hence they merely evacuate the contents of the canal. Others are much more powerful stimulants: they always occasion an influx of fluids from the exhalent vessels, and neighboring secreting organs; they extend their stimulus to the system in general, and if taken in too large a dose, excite inflammation on the surface of the intestines. The former are distinguished by the title of laxatives; the latter are termed purgatives; and the stronger of them drastic purgatives.

Cathartics, as medicines, are capable of fulfilling various indications.

Where there exists a morbid retention of the contents of the stomach, where these contents are acrid, or where extraneous bodies are present, they are calculated by their evacuating power to relieve the symptoms arising from these affections, and hence

their utility, in constipation, cholic, dysentery, and a variety of febrile affections. Partly by exciting the intestines to action, and partly by extending their stimulus to the other abdominal viscera, cathartics are of service in dyspepsia, hypochondriasis, amenorrhœa, jaundice, and visceral obstructions.

By their power of stimulating the exhalent vessels, on the internal surface of the intestinal canal, and causing a larger portion of fluid to be poured out, cathartics are capable of producing a diminution of the fluids with respect to the general system, and of course cause an abstraction of stimulus. Hence purging is a principal part of what is termed the antiphlogistic regimen, and is employed as a remedy of much power in highly inflammatory diseases.

From the same power of causing effusion of fluid, is to be explained the utility of cathartics in the various species of dropsy. A balance is preserved in the system between exhalation and absorption, so that when one is increased, the other is so also. The increased secretion and discharge of serous fluid, which cathartics occasion, causes an increased absorption; whence the affused fluid in dropsy is frequently taken up and removed.

Partly by the serious evacuation which cathartics occasion, and partly by the derivation of blood they make from the head, they are highly useful in the prevention and cure of apoplexy, all comatose affections, mania, phrenitis, and headach.

The administration of cathartics is rendered improper by inflammation of the stomach or intestines, or tendency to it, and by much debility. Several cautions are likewise requisite in their exhibition. The nausea or griping they frequently produce, may be obviated by the addition of an aromatic, or by giving them in divided doses. The more powerful cathartics should always be given in the latter mode; and in general they irritate less when given diffused in a fluid than when given in a solid form.

The different cathartics may be considered under the two divis-

ions of laxatives and purgatives: the former being mild in their operation, and merely evacuating the contents of the intestines; the latter being more powerful, and extend their stimulant operation to the neighboring parts.

A division of cathartics remains, intermediate in their operation between the laxatives and purgatives, more powerful than the one, less violent and stimulating than the other. These are the neutral salts. They seem to act principally by stimulating the exhalant vessels on the inner surface of the intestines; and by the watery evacuation they occasion, are particularly adapted to those cases where inflammatory action or tendency to it exists.

CLASS VII.—EMMENAGOGUES.

The medicines arranged under this class are those capable of promoting the menstrual discharge.

As the suppression of this discharge is usually owing to debility of the uterine vessels, or want of action in them, the medicines capable of exciting it must be those which can stimulate these vessels.

General stimulants or tonics must have this effect to a certain extent, and there are several stimulants both diffusible and permanent, employed as Emmenagogues.

It is doubtful, whether there are any other medicines, which have their stimulant operation particularly determined to the uterine vessels. There are several, however, which, acting on the neighboring parts, have their action extended to the uterus, and hence exert an emmenagogue power greater than can be ascribed to any general stimulant operation they exert on the system. Several cathartics act in this manner.

Under one or other of these divisions, may be arranged the principal medicines employed as emmenagogues.

CLASS VIII.—DURETICS.

Diuretics are those medicines which increase the urinary discharge.

It is obvious that such an effect will be produced by any substance capable of stimulating the secreting vessels of the kidneys. All the saline diuretics seem to act in this manner. They are received into the circulation, and, passing off with the urine, stimulate the vessels, and increase the quantity secreted.

There are other diuretics, the effect of which appears not to arise from direct application, but from an action excited in the stomach, and propagated by nervous communication to the secreting urinary vessels. The diuretic operation of squill, and of several other vegetables, appears to be of this kind.

There is still, perhaps, another mode in which certain substances produce a diuretic effect, that is, by promoting absorption.—When a large quantity of watery fluid is introduced into the circulating mass, it stimulates the secreting vessels of the kidneys, and is carried off by the urine. If, therefore absorption be promoted, and if a portion of serous fluid, perhaps previously effused, be taken up, the quantity of fluid secreted by the kidneys will be increased. In this way digitalis seems to act: its diuretic effect, it has been said, is greater when exhibited in dropsy than it is in health.

The action of these remedies is promoted by drinking freely of mild diluents. It is also influenced by the state of the surface of the body. If external heat be applied, diuresis is frequently prevented, and diaphoresis produced. Hence the doses of them should be given in the course of the day, and the patient if possible be kept out of bed.

The direct effects of diuretics are sufficiently evident. They discharge the watery part of the blood; and by that discharge they indirectly promote absorption over the whole system.

Dropsy is the disease in which they are principally employed, and when they can be brought to act, the disease is removed, with less injury to the patient than it can be by exciting any other evacuation. Their success is very precarious, the most powerful often failing; and as the disease is so frequently connected with organic affection, even the removal of the effused fluid, when it takes place, only palliates without effecting a cure.

Diuretics have been likewise occasionally used in calculous affections, in gonorrhœa, and with the view of diminishing plethora, or checking profuse perspiration.

CLASS IX.—DIAPHORETICS.

Diaphoretics are those medicines which increase the natural exhalation by the skin. When this is carried so far as to be condensed on the surface, it forms sweat; and the medicines producing it are named sudorifics. Between diaphoretics and sudorifics, there is no distinction; the operation is in both cases the same, and differs only in degree from augmentation of dose, or employment of assistant means.

Since diaphoresis or sweat is merely the increase of the natural exhalation, it must arise from increased action of the cutaneous exhalent vessels, and the medicines belonging to this class must be those which are capable of exciting that action.

Of stimulants capable of producing this effect, the application of heat to the surface affords an example. It is one of the most effectual, and is always employed to promote the action of sudorifics.

The same effect may be produced indirectly, by increasing the general force of the circulation, which acts as a stimulus on the exhalent vessels, and increases their discharge.

By one or other of these modes of operation, the medicines classed as diaphoretics seem to act.

The saline diaphoretics, as they do not sensibly augment the force of the circulation, probably act in the former manner, exerting a particular action on the stomach, which is communicated to the vessels of the skin, or perhaps being received into the blood, and directly applied to these vessels.

Those diaphoretics, on the contrary, which are termed heating, as the aromatic oils and resins, act by directly stimulating the heart and arteries, and increasing the force of the circulation.

Diaphoresis is not, however, the necessary consequence of the circulation being increased; for the surface often remains dry, where the pulse is frequent and strong. In this case, a morbid constriction of the cutaneous vessels exists, which opposes a resistance to the impetus of the blood. Whatever, therefore, relaxes these vessels, will favor the production of sweating; and to this mode of operation probably is to be ascribed the diaphoresis produced by antimonial preparations, or by ipecacuan, and in part the advantage derived from the use of warm diluents in promoting sweat. When these circumstances, the increase of the force of the circulation and the relaxation of the cutaneous vessels, are conjoined, the sweating will be still more copious; and from this probably arises the superiority of the combination of opium with stimony or ipecacuan, to any other sudorific.

The primary effects of diaphoretics, are to evacuate the watery part of the blood, and thus lessen the quantity of fluid in the circulating system; to determine the blood to the surface; to increase the action of the absorbents, and to remove spasmodic constriction of the cutaneous vessels, and render the skin moist.

The first of these effects probably takes place to no great degree, the free use of diluents makes part of the sweating regimen.

The last effect, the changing the state of the vessels on the skin, the most important, considered in a practical point of view, that diaphoretics produce, as on this their efficacy in fever, in which principally they are employed, depend.

CLASS X.—EXPECTORANTS. , 227

Expectorants have been defined, those medicines which facilitate or promote the rejection of mucus or other fluids from the lungs and windpipe. The theory of their operation is very imperfectly understood. It has been supposed that where a greater quantity of fluid is thrown out into the lungs than the exhalent can take up, there are remedies which may facilitate its rejection.—But as expectoration is an operation partly voluntary, and dependant on the action of a number of muscles, it is difficult to discover how such an effect can be produced. If by expectorants, be meant substances capable of producing it by some specific action on the parts concerned, there seems no reason to believe in the existence of such remedies.

Dr. Cullen supposed that expectorants might act by promoting the exhalation of a thin fluid, which diluting the viscid mucus present in the mucus follicles in the lungs and windpipe, might facilitate its rejection. But the action of the different individuals belonging to the class, and especially their effects in various diseases, cannot be explained on this principle.

There are probably various modes of operation by which certain remedies will appear to promote expectoration, and which will give them a claim to the title of expectorants.

Thus, in certain diseases the exhalent vessels in the lungs, seem to be in that state, by which the exhalation of fluid is lessened, or nearly stopped, and in such cases expectoration must be diminished. Any medicine capable of removing that constricted state, will appear to promote expectoration, and will at least relieve some of the symptoms of the disease. It is apparently by such a mode of operation, that antimony, ipecacuana, squill, and some others, promote expectoration in pneumonia, catarrh, and asthma, the principal diseases in which expectorants are employed.

There is a case of an opposite kind, that in which there is a redundancy of mucus in the lungs, as occurs in humoral asthma.

In these affections, certain expectorants are supposed to prove useful. If they do so, it is probably by being determined more particularly in their action to the pulmonary vessels, and by their moderate stimulus diminishing the secretion, or increasing the absorption, thus lessening the quantity of fluid, and thereby rendering the expectoration of the remainder more easy. The determination of these substances to the lungs is often perceptible by their odour in the air expired. A similar diminution of fluid in the lungs may be effected by determining to the surface of the body, and those expectorants which belong to the class of diaphoretics probably act in this manner.

Expectorants, then, are to be regarded, not as medicines, which directly assist the rejection of a fluid already secreted, but rather as either increasing the natural exhalation where it is deficient or diminishing the quantity of fluid where it is too copious, either by stimulating the pulmonary vessels, or by determining to the surface. In both cases expectoration will appear to be promoted or facilitated.

Inflammation of the lungs, catarrh and asthma, are the principal diseases in which expectorants are employed; and the mode in which they prove useful will be apparent from what has been said of their operation.

CLASS XI.—SIALAGOGUES.

Sialagogues are substances which increase the quantity of the salivary discharge. This may be effected by the mastication of certain acrid substances, or by the internal exhibition of certain medicines.

Of those which act in the latter mode, *mercury* and *blue flag* are the only ones that uniformly produce this effect. No satisfactory explanation has been given of this peculiar power which they ex-

ert; and the inquiry why this should be particularly directed to the salivary glands, appears as fruitless as that into the specific virtue of any medicine. They do not from their sialagogue power appear to be of advantage in the treatment of any disease; salivation being only a test of their action on the system, but not in itself of any utility.

The remaining sialagogues are those which act merely by topical application, by mastication, and from their acrid stimulating quality. By increasing the salivary discharge, they have been found of service in toothache, and, as has been supposed, in some kinds of headache.

CLASS XII.—ERRHINES.

Errhines are medicines which occasion a discharge from the nostrils, either of a mucus or serous fluid. They all operate by direct application, and generally in consequence of a greater or less degree of acrimony which they possess. Their practical uses, it is evident, must be very limited. By the evacuation they occasion, it is supposed that they may diminish the quantity of fluid in the neighboring vessels; and that they hence may prove useful in rheumatic affections of these parts, in headache, pain of the ear, and ophthalmia. They are sometimes used with advantage in some of these affections. It has likewise been imagined that they may be of use in preventing apoplexy.

CLASS XIII.—EPISPASTICS AND RUBEFACIENTS.

These, as they operate on the same principles, and produce the same effects only in different degrees, may be considered merely as subdivisions of one class.

EPISPASTICS.

Epispastics are those substances which are capable, when applied to the surface of the body, of producing a serous or puriform discharge, by exciting a previous state of inflammation. The term, though comprehending likewise issues and setons, is more commonly restricted to blisters,—those applications which, exciting inflammation on the skin, occasion a thin serous fluid to be poured from the exhalents, raise the cuticle, and form the appearance of a vesicle. This effect arises from their strong stimulating power, and to this stimulant operation, and the pain they excite, are to be ascribed the advantages derived from them in the treatment of disease. The evacuation they occasion is too inconsiderable to have any effect.

It is a principle sufficiently established with regard to the living system, that where a morbid action exists, it may often be removed by inducing an action of a different kind in the same or in a neighboring part. On this principle is explained the utility of blisters in local inflammation and spasmodic action, and it regulates their application in inflammations of the lungs, stomach, liver, brain, and throat, rheumatism, colic, and spasmodic affections of the stomach; diseases in which they are employed with the most marked advantage.

A similar principle exists with respect to pain; exciting one pain often relieves another. Hence blisters often give relief in toothache, and some other painful affections.

Lastly, blisters, by their operation, communicate a stimulus to the whole system, and raise the vigor of the circulation. Hence, in part, their utility in fevers of the typhoid kind, though in such cases they are used with still more advantage to obviate or remove local inflammation.

RUBEFACIENTS.

Rubefacients excite pain and inflammation, but in a less degree than blisters, so that no fluid is discharged. They stimulate the

system in general, and obviate local inflammation, and are used for nearly the same purposes as blisters.

Any stimulating application may be used for this purpose.

Cantharides added in a small proportion to a plaster, or the tincture of cantharides applied by friction to a part, is often employed as a rubefacient.

Ammonia mixed with one, two, or three parts of expressed oil, forms a liniment frequently used for this purpose in rheumatism, angina, and other cases of local inflammation.

REMEDIES ACTING CHEMICALLY.

CLASS XIV.—REFRIGERANTS.

The remedies comprised under this class have been usually defined, substances which directly diminish the force of the circulation, and reduce the heat of the body, without occasioning any diminution of sensibility or nervous energy.

All acids are supposed to be refrigerants; but the vegetable acids are allowed to possess this power in a more eminent degree.

The native vegetable acids are found chiefly in the fruits of vegetables. The sour juice of these fruits consists either of the citric or malic acids, or more frequently of a mixture of both. The citric acid is that which is most largely employed, as it forms chiefly the acid juice of the orange and lemon, the two acid fruits in common medicinal use.

CLASS XV.—ANTACIDS.

Antacids are remedies which obviate acidity in the stomach.—Their action is purely chemical, as they merely combine with the

acid present, and neutralize it. They are only palliatives, the generation of acidity being to be prevented by restoring the tone of the stomach, and its vessels. Dyspepsia and diarrhœa are the diseases in which they are employed.

CLASS XVI.—LITHONTRIPTICS.

Lithontriptics are medicines supposed to be capable of dissolving urinary calculi. Their operation is entirely chemical.

The researches of modern chemists have proved, that these calculi, in general, consist principally of a peculiar animal acid, named the lithic or uric acid. With this substance the alkalies are capable of uniting, and of forming a soluble compound.

From the exhibition of alkaline remedies, the symptoms arising from a stone in the bladder are very generally alleviated; and they can be given to such an extent, that the urine becomes sensibly alkaline, and is even capable of exerting a solvent power on these concretions. Their administration cannot, however, be continued to this extent for any considerable length of time, from the strong irritation they produce on the stomach and urinary organs. The use, therefore, of the alkalies as solvents, or lithontriptics, is now scarcely ever attempted; they are employed merely to prevent the increase of the concretions, and to palliate the painful symptoms, which they do, apparently by preventing the generation of lithic acid, or the separation of it by the kidneys; the urine is thus rendered less irritating, and the surface of the calculus is allowed to become smooth.

CLASS XVII.—ESCHAROTICS.

Escharotics are substances capable of dissolving animal matter; applied to the skin, they erode it, and to an ulcer, they remove its

surface. They are employed to consume exeresences, to open an ulcer, and to change the diseased surface of a sore already existing. Their action is entirely chemical.

REMEDIES ACTING MECHANICALLY.

CLASS XVIII.—ANTHELMINTICS.

Anthelmintics are those medicines used to expel worms from the intestinal canal. The greater number of them act mechanically, dislodging the worms, by the sharpness or roughness of their particles, or by their cathartic operation. Some seem to have no other qualities than those of powerful bitters, by which they either prove noxious to these animals, or remove that debility of the digestive organs by which the food is not properly assimilated, or the secreted fluids poured into the intestines are not properly prepared; circumstances from which it has been supposed the generation of worms may arise.

CLASS XIX.—DEMULCENTS.

Demulcents are defined, “Medicines suited to obviate and prevent the action of acrid and stimulant matters, and that, not by correcting or changing their acrimony, but by involving it in a mild and viscid matter, which prevents it from acting upon the sensible parts of our bodies,” or by covering the surface exposed to their action.

Where these substances are directly applied to the parts affected, it is easy to perceive how benefit may be derived from their application. But where they are received by the medium of the

stomach into the circulating system, it has been supposed that they can be of no utility, as they must lose that viscosity on which their lubricating quality depends. Hence it has been concluded, that they can be of no service in gonorrhœa, and some similar affections. It is certain, however, that many substances which undergo the process of digestion are afterwards separated in their entire state from the blood, by particular secreting organs, especially by the kidneys; and it is possible that mucilaginous substances, which are the principal demulcents, may be separated in this manner. There can be no doubt, however, but that a great share of the relief demulcents afford in irritation or inflammation of the urinary passages, is owing to the large quantity of water in which they are diffused, by which the urine is rendered less stimulating from dilution. In general, demulcents may be considered merely as substances less stimulating than the fluids usually applied.

Catarrh, diarrhœa, dysentery, calculus, and gonorrhœa, are the diseases in which demulcents are employed. As they are medicines of no great power, they may be taken in as large quantities as the stomach can bear.

The particular demulcents may be reduced to the two subdivisions of mucilages and expressed oils.

CLASS XX.—DILUENTS.

Diluents are defined, those substances which increase the proportion of fluid in the blood. It is evident that this must be done by watery liquors. Water is indeed, properly speaking, the only diluent. Various additions are made to it, to render it pleasant, and frequently to give it a slight demulcent quality. But these are not sufficiently important to require to be noticed, or to be classed as medicines.

Diluents are merely secondary remedies. They are given in

acute inflammatory diseases, to lessen the stimulant quality of the blood. They are used to promote the action of diuretics in dropsy, and to favor the operation of sweating.

CLASS XXI.—EMOLLIENTS.

Emollients are those medicines which diminish the force of cohesion in the particles of solid matter of the human body, and thereby render them more lax and inflexible. Their operation is mechanical; they are insinuated into the matter of the solid fibre, and lessen the friction between its particles. They are useful when the fibres are rigid, or when they are much extended, and therefore afford relief when topically applied to inflamed parts, to tumors distending the skin, or where the skin is dry and rigid.

Heat conjoined with moisture is the principal emollient; and water applied warm by the medium of some vegetable substances, constituting the various fomentations and cataplasms, is the form under which it is applied, the vegetable matter serving to retain the heat, and to allow the proper application of the moisture.

Oils and unctuous substances are the only other emollients; they are merely introduced by friction. Any of the expressed oils already noticed, or lard, may be used for this purpose.

The preceding observations are inserted to give a general idea of the virtues of such medicinal substances as are possessed of the qualities which make the objects of the respective articles. I shall now proceed to an account of each of the remedies separately; commencing with botanical, or vegetable medicines, which will receive more particular attention; they being more in accordance with the objects of this work. Together with native plants, such foreign medicines will be described as are serviceable and in common use.

A DESCRIPTION OF THE PLANTS USED BY THE
AUTHOR IN HIS PRACTICE.

AGRIMONY. *Agrimona Eupatoria.*

This plant rises two or three feet high, branching towards the top, and bears yellow flowers, succeeded by a small bur; its leaves alternate, growing on a stem having five or six pair and an odd one at the end. It is found in cultivated fields, by the road sides, and in open woods; flowers in July and August, and is sometimes known by the name of cuccold bur.

PROPERTIES.—It is a mild astringent, corroborant, and tonic, and therefore beneficial in a relaxed state of the system. Its good effects are manifest in what are termed bearing down pains, and in prolapsus uteri. The proper form of administering it, is in infusion: the whole plant to be used. The warm decoction is useful in common colds, to excite perspiration; its principal use however, is in female weakness, not only in restoring tone, but in procuring cheerfulness of mind.

ANGELICA. *Angelica Atropurpurea.*

This plant rises from three to six feet high, stalks large and hollow, reddish at the base, with many joints, leaves large, blos-

soms white, flowers in July, and is to be found in wet, rich, intervalle land throughout the United States.

PROPERTIES.—This plant is tonic and carminative; useful in flatulency, wind colic and pain in the stomach. In nervous debility attended with cold hands and feet, it is singularly useful, by restoring the equilibrium of the circulation and warming and recruiting the system.

ALEXANDER. Wild Parsley. *Smyrniun Olusatrum*.

This is a biennial plant, root long and very thick, small throng, taste acrid, leaves doubly compound, numerous, and proceed directly from the root. The main leaf stalk is divided into three principal branches, and each of these subdivided into three others, which support a number of short oval serrated leaves; its stem is firm, upright and scarred on the surface; it grows from four to six feet high, having crescent shaped seeds. Found in low meadows, flowers in July and ripens its seed in September.

The seeds only are used in medicine, and are a warm diuretic. Taken in infusion.

BLACK ALDER. *Prinos Verticillatus*.

This is a very common shrub and is found in most parts of the United States, in swamps and low grounds. The bark and berries are all that we use for medicinal purposes. The bark is black or dark brown, and the inner bark yellow, resembling saffron. The berries are of a deep red color. The bark is an astringent and bitter, sometimes used in place of peruvian bark in intermittents, and in a diseased state of the liver.

TAG ALDER. *Alnus Serrulata*.

This shrub grows in wet land and rises from ten to twelve feet high, and bears tags from which it derives its name.

The medicinal qualities of this shrub are tonic and alterative. It works effectually in the blood and is good in liver complaints, jaundice, &c.

ARCHANGEL. *Angelica Archangelica.*

There are three species of this article—two only are used, viz: the high and the low; the former grows from four to five feet high, leaves of a deep green, long and pointed, blows white, appearing in July, root aromatic: used in female weakness and pain.

The *low* grows from ten to sixteen inches high, leaves deeply notched, flowers white, expanding in August. Medical properties tonic and astringent: useful in piles, dysentery, &c.

ARROW ROOT. *Maranta Arundinaccea.*

This article is imported from the West Indies and is used as a diet for the sick; is mucilaginous and nourishing: useful in bowel complaints, but is more an article of luxury than necessity, and its place may be supplied nearer home.

ARSESMART. *Polygonum Persicaria.*

This herb is so common that it needs no description, but it ought to be esteemed as one of the best of herbs. Medicinal properties. It is a powerful antiseptic, and allays inflammations and swellings, especially such as affect the knee joint. It should be applied in decoction. The infusion may be drank freely, without any bad effects. It has been used in gravel and other obstructions of the urine, with singular effect, indeed it has cured many cases of gravel without the aid of any other remedies; and for coughs and common colds it is remarkably efficacious.

ASSARABACCA. *Asarum canadense.*

Called also wild ginger, coltsfoot, canada snake-root, &c. This is a humble plant, stemless the leaves rise immediately from the

root, and are usually two in number, resembling a colt's foot. The flowers proceed from between these leaves, and are large, purple, and bell-shaped; the root is fibrous, of a grey brown color externally and white within. It grows throughout the U. States, in shady woods and rich soil; both the roots and leaves have a bitter, hot, nauseous taste.

American Assarabacca is aromatic, errhine, and emmenagogue, and in large doses operates as an emetic and cathartic. It is useful in debility, melancholy, palpitations, low fevers, and obstructions. The dose must be small and often repeated: used in infusion or tincture. The principal use of this plant among modern practitioners, is, as a sternutatory, being one of the strongest of the vegetable errhines and very useful in disorders of the head and eyes. Snuffed up the nose in quantities of one grain, it will produce a free discharge of mucus.

For the description and use of this plant we are indebted to W. Smith.

AVENS. *Geum Rivale.*

This plant grows from one to two feet high, leaves large and resemble those of the turnip. Flowers pale red, appearing in July. The root of this plant is a powerful astringent and tonic. In substance or strong decoction it is useful in hemorrhages, the secondary stages of bowel complaints, sore mouths, &c. It is also an antidote against the bad effects of mercury in cases of salivation. A weak infusion is beneficial in chronic affections of the lungs, indigestion, and general debility. It should be drank with food at meal time, being a good substitute for tea or coffee, and much more wholesome than either.

APPLE PERU. *Datura Stramonium.*

This is also called Jamestown weed, thorn apple, &c. It grows from two to four feet high. Flowers appear in July and August;

are bell-shaped and of a dingy yellow with purple stripes; this being a characteristic mark of all poisonous plants. The apple or seed vessel is large, egg-shaped, and covered with sharp thorns, and contains many black seeds. The whole plant is nauseous and powerfully narcotic. It is used internally for apoplexy, epilepsy, mania, chronic rheumatism, and difficult menstruation in the form of an extract. This is prepared by exposing the juice of the plant to a very moderate heat until of sufficient consistence for making into pills. Dose, one or two grains once a day, increasing gradually. It is a very active medicine and when taken internally must be used with extreme caution. Externally it is useful in fresh wounds, scalds, burns, piles, ulcers, &c., made into an ointment with fresh butter or lard.

BUCK-HORN BRAKE.

This valuable plant rises about one foot high, the leaves branch out like a Buck's horn, from whence its name. It is a valuable astringent, and is beneficial in female weakness, flower albus, etc.

HOG BRAKE.—The medicinal effects of this are similar to the above, except it is more mucilaginous, and may be more freely used either alone or in combination.

COMMON BRAKE. *Pteris Aquilina*.—This brake, sometimes called *female fern*, is used to prevent abortions, and to ease pains in females at times, and to check hemorrhages.

UPLAND BRAKE.—This grows in uplands, the leaves are deeply indented at the edges. The root is made up of small tushes or horns, and is astringent. It is a safe remedy in diarrhœa, dysentery, and weakness of the bowels.

BLOOD ROOT. *Hieracium Venosum*.

This plant rises six or seven inches high. The leaves lie flat on the ground, two or three in number, hairy, full of red winding

veins, oval shaped, and remain throughout the winter. The flower-stem is bare of leaves, the top, a spike of purple blossoms. The roots are small, tough, and fibrous. It grows on uplands throughout the United States.

The medical properties of this plant are antiseptic, astringent, and styptic. A decoction of it drank will speedily arrest hemorrhage. The powdered root mixed with an equal quantity of blood root and a little alum, and used as snuff destroys a polypus in the nose very speedily. A syrup of this plant has been beneficially used in consumptions attended with spitting of blood.

BONESET. *Eupatorium Perfoliatum.*

This useful plant is indigenous to the United States. It rises to the height of from two to five feet. Stem round, branching, hairy; the leaves are serrated rough, perforated in the middle by the stem, and tapering to the extremities. The flowers are white and collected into a large cluster at the ends of the branches, appearing in July and August. It grows in meadows and near brooks of water.

This plant is a valuable sudorific, tonic, emetic and febrifuge. It was used by the natives, and by them considered a very efficacious remedy in fevers, colds, &c. It is intensely bitter and possesses important medicinal properties. When taken freely it produces vomiting and purging, but in less quantity induces a gentle perspiration and displays some tonic effects. It has been used successfully in the cure of intermittents; and in cases of catarrhal fevers I have found it very beneficial. A weak infusion drank on going to bed, seldom fails of producing relief in mild cases: and persons laboring under indigestion, and the loathing of food, occasioned by drunkenness, will find it very useful, drank cold and in small quantities. In all cases, except highly inflammatory, where a diaphoretic is indicated, this may be used, unless rejected by the stomach. In obstinate cutaneous diseases its effects are often very

salutary by restoring tone to the capillary system. When taken in substance the dose is about half a teaspoon full of the powdered leaves.

BURDOCK. *Arctium Lappa.*

This well known plant needs no description. It promotes perspiration, increases the discharge of urine, and possesses detergent, purging properties, and in my opinion, superior to sarsaparilla. It may be safely used in fevers and other acute diseases as a sudorific, for it acts without producing irritation. A decoction of the seeds is useful in inflammatory rheumatism, scrofula, and chronic diseases of the skin. The leaves may be applied to acute swellings, and are frequently used in place of sinapisms to the feet.

BEECH DROPS. *Epiphegus Virginianus.*

They are generally found growing on the roots of beech trees, six or eight inches high, of a brown color; the stem is erect, branching, scaly, and without leaves. The root is tuberous, and the whole plant astringent. It is a useful remedy in dysentery; but more particularly beneficial in the cure of canker in the mouth, and by some made use of in cancer. In disease of the skin, it often proves salutary, used in decoction externally.

BEARBERRY. *Arbutus Uva Ursi.*

This is an evergreen shrub or vine, the leaves oval, smooth, of a pale green color, flowers whitish, in clusters at the end of the stem. It grows on mountains and upland in various portions of the Union. The leaves have a bitterish taste and are astringent and tonic. It is useful in all debilitating discharges, and particularly in ulceration of the urinary passages, in flower albus, diabetes, excess of catamenia, diarrhœa, &c. Prof. Barton recommends it highly in affections of the kidneys, proceeding from gout.

It may be given in decoction or powder; of the latter, a teaspoon full may be taken three times a day.

BARBERRY. *Berberis Vulgaris.*

This useful shrub is very scarce west of the Genesee river. It grows in the form of the sweet briar, from four to six feet high, bearing clusters of oval, red berries, of an acid taste. The berries stay on during the winter, and make a cooling beverage in fevers. The bark is an intense bitter, useful in jaundice, fever and ague, hepatic obstructions, and makes a very healthy spring beer or bitters.

BAYBERRY. *Myrica Cerifera.*

This shrub grows from two to four feet high, with many branches, leaves long and narrow, shaped like the fern, and bearing berries from which a tallow is obtained of much use in medicine. This article is generally found on poor soil. The leaves and bark are used, being astringent and carminative: are beneficial in bowel complaints, colic pains in the stomach, and in arresting gangrene. It is used as a beer in the spring by the New England people in dropsical cases and partial paralysis. The bark of the root made fine, is an excellent snuff in catarrh. An eastern empiric says it should be combined with Cayenne, cinnamon and ginger, but I have never been in the habit of boiling the blood in the veins of the living, whether in sickness or health.

BLACKBERRY. *Rubus Villosus.*

The bark of the blackberry root boiled in milk is a valuable remedy in dysentery and should be taken freely. Take of the unripe berries, two pounds; bruised and simmered with one pound of loaf sugar, add half a pint of brandy, strain and bottle for use. This, in dysentery is one of the most valuable remedies I am acquainted with.

BITTER-SWEET. *Solanum Dulcamara.*

This vine is common in almost every part of the United States, found climbing trees and ledges of rocks; leaves similar to those of the pear, flower purple with yellow anthers, always twining from the sun, the bark is yellow and thick: used in fever and inflammation. We use it in decoction in palpitation of the heart. It strengthens the system of secreting and excreting vessels, and acts on the liver, producing a free circulation and perspiration. An ointment prepared by simmering the fresh bark in lard or sweet oil is useful in cases of contracted tendons, and stiff joints. It is likewise applicable to all cases of inflammatory swellings, bruises, ulcers, &c.

BITTER-WEED. *Artemisia pontica.*

This plant grows very similar to the garden wormwood, having larger leaves. Flowers appearing in June or July. The whole plant has a bitter disagreeable taste. Taken in decoction, it is useful in nervous and hysterical affections, and for quieting after pains. It promotes perspiration and is composing and strengthening when used freely.

BETH-ROOT. *Trillium erectum.*

There are three kinds of beth root, distinguished by their blossoms; the white, the red, and the white and red. Early in the spring they send up a stem eight or ten inches high, with three large, smooth green leaves near the top, and a flower with three petals an inch or two above the other leaves; from the centre of the flower, proceeds a bud with six sides, containing seeds. The root is from one to three inches long, tuberous soft, sending out many radicles or fibres, and has a pleasant bitter taste. Used in female debility, flower albus, and aphthous sore mouths.

BLOOD-ROOT. *Sanguinaria Canadensis.*

This plant attains to the height of six to ten inches. It is one of our earliest spring plants; leaves large and deeply scalloped; flowers white, appearing in May. The root is about the size of the little finger, is red and tuberous, is found in various parts of the United States in woods and meadows. It is stemless, the leaf-stalk rising immediately from the root, and supporting but one leaf. Bloodroot is a powerful emetic and cathartic, and may be used in fevers. It is a good alterative in liver difficulties, promoting a healthy secretion of bile. As an emetic in croup, it certainly ranks high, and may be used in rheumatism, and affections of the chest.

BROOK-LIME. *Veronica beccabunga.*

This little valuable evergreen plant lines the brooks throughout our country, especially those that are favored with water from living springs. It is a small running vine, with small green leaves much like the one berry. The flowers are blue, appearing in July. It has a bitter taste. It is used as a diuretic, tonic, and detergent, beneficial in all cases of debility of the system, faintness and languor. It creates appetite, purifies the blood and is highly recommended in the incipient stages of consumption. It is also useful in sore mouth, thrush, canker and scarlet fever. The green plant, bruised, and applied to inflamed surfaces and swellings, acts very beneficially.

BLUE FLAG, *Iris versicolor.*

This plant rises four or five feet high, leaves sword shaped, flowers purple with yellow lines, appearing in May and June. It is found in marshy situations. The medical properties of this plant are not often equaled in the vegetable kingdom. It is emetic, cathartic, diuretic and carminative. The root should be taken up in the fall or spring, carefully washed, dried, pulverized, and bottled up for use.

A teaspoon full of the powder will prove an emetic, and a third part taken once in two hours produces a cathartic effect. Equal parts of the blue flag and mandrake taken in three grain doses, once in four hours, will act on the glands and produce salivation, but free from the injurious effects which follow the like use of calomel. This is a very efficacious alterative, and I hope the profession will investigate more fully its medicinal properties.

Put four teaspoons full of the root into half a pint of cold water, stir a few minutes, settle, strain and add thirty drops of oil of anise and one third gin: a teaspoon full taken two or three times a day, is salutary in all affections of the liver, bilious colic, flatulency, histeria and spasmodic affections. This powder made into an ointment with fresh butter, is useful in felons, runrounds on the fingers, and similar painful swellings.

The powdered root or tincture may be freely used by those subject to bilious colic, as a preventative. It rarely fails preventing an attack of this formidable disease. And in mercurial disease its antidotal powers are effectually displayed by its speedy arrest.

Again I say to the physician, try it instead of calomel.

BOG BEAN. *Menyanthes trifoliata*.

This plant grows about a foot high, and resembles the garden bean, the flowers are white, appearing in June; the root is of a bright yellow, and runs horizontally to the distance often of five or six feet. It is found in wet rich lands, as swamps, and river bottoms. It is rather scarce in this part of the country. The root is intensely bitter and exerts a powerful effect on the liver, and is useful in all bilious complaints. It is one of the best vermifuges, and will even destroy the tape worm. I use this article in my worm powders, to the recipe of which I refer.

BLADDERWORT. *Utricularia Vulgaris*.

This plant rises about one foot high; leaves small and bushy; flowers in July; root bulbous, and an active diuretic, useful in in-

inflammations of the kidneys and bladder, and a good adjunct in all weak and debilitated states of the urinary passages. It is found in all parts of this state.

BALM OF GILEAD. *Populus angulata.*

This needs no description. It is a very common shade tree. A tincture of the buds is useful in weak stomachs, caused by falls, and in spitting of blood. The buds pounded to an ointment, are applied to cancers, tumours, &c. The bark of the root makes a fine bitter in cases of general debility.

BALM. *Melissa.*

Of this there are three kinds, the garden, the rose and the bee. The garden balm rises about two feet high, leaves oval, and flowers white. This plant is cultivated in gardens, and taken in infusion, is a cooling drink in fevers.

The *Rose Balm*, differs but little from the garden. It has beautiful red flowers appearing in September, and is to be found in rich intervale land.

The *Bee Balm* is similar to the others; flowers are more of a pink or peach. These grow spontaneously over the country and may be used indiscriminately.

BROOK-LIVERWORT. *Marchantia polymorpha.*

Is found in moist, wet land, in swamps, and about springs and rivulets, lying flat, on stones, old logs, &c. It is very green in the spring, the roots small and fibrous. It is a cooling mucilaginous article, used in liver cases and affections of the lungs, and irritable coughs. It is beneficially applied to inflamed parts, painful swellings, &c.

Box-wood. *Leornus florida.*

This valuable tree is to be found in most parts of the U. States, and attains to the height of from twelve to twenty feet; flowers white tinged with red, appearing in June or July. It is a valuable tonic, especially for female weakness. It is useful in bearing down pains, and painful menstruation. The bark of the root in infusion, and the vinous tincture, are held in high estimation in cases of intermittent and remittent fevers, and in my opinion preferable to the Peruvian bark. The flowers are valuable, when dried and carefully preserved in bottles, either in tincture or infusion. The bark should be taken off in the fall or spring, and kept from the air. The sensible qualities of this bark are bitter and astringent. In many places it is called dogwood.

{BLUE VIOLET. *Viola Cucullata.*

This plant rises four or five inches high; leaves somewhat heart shaped, flowers blue, appearing in May. It is found in wet land, roots white, short and mucilaginous. Combined with comfrey and spikenard, it is useful in diarrhœa and bowel complaints.

CRANESBILL. *Geranium Maculatum.*

This plant attains from six to twelve inches high; leaves deeply serrated; flowers blue or purple, expanding in May. The root is a pure and strong astringent, much preferable to the *kino* of the shops. It may be used to advantage in passive hemorrhages, the secondary stage of dysentery, in gleet, flower albus, in canker, thrush and gravelly cases. To be taken in substance, infusion or tincture. This is an efficacious remedy in all cases where astringents are indicated, being one of the most valuable we possess.

CRAWLEY.

This plant, sometimes called fever root, seldom makes its ap-

pearance until about the first of June. It grows from ten to twelve inches high, but is destitute of leaves; flowers white appearing in July. The seeds hang on the top of the stalk, enclosed in a pod; the roots are dark colored and resemble cloves—they are the only part used in medicine. It is a very effectual remedy in exciting perspiration, without increasing the heat of the body; it is indeed a powerful febrifuge and diaphoretic. The root is a very efficient remedy in remittent, typhus, nervous and inflammatory fevers; and will remove cramps, constrictions and all pains caused by cold. It produces a general relaxation of the system, equalizes the circulation, and brings moisture to the surface. The root is to be made fine, and carefully preserved from the air. After proper evacuations of the stomach and bowels, a teasoop full may be given once in twenty minutes, in black snake-root tea, until a gentle perspiration is induced, or until from four to six are given.

CELANDINE. *Chelidonium Majus.*

This plant grows in meadows and by running brooks, rises two or four feet high; has many tender, watery, transparent stalks, with large joints, leaves large, serrated, and very tender; flowers yellow and four petalled. Seed vessel pod-like, and when compressed bursts with force scattering the seed.

The juice of this plant is used in the cure of ringworms, and as a discutient to old ulcers. Internally it is administered in dropsy and green sickness; infused in vinegar, it promotes perspiration and increases urinary discharges. In the form of poultice boiled in milk, it has cured tetters. The juice of this and the ground ivy are useful in removing opacities from the cornea.

CATNEP. *Nepeta cataria.*

This plant is so common that it needs no description. The flowers of this plant dried and mixed with honey, often relieve

the asthma. It is very beneficial in colds, coughs, shortness of the breath, dizziness, and such affections as are produced by suppressed perspiration. It is very efficient in relieving the flatulency of young children, and seems in such cases to be an excellent carminative. The expressed juice made into an ointment with lard relieves the piles.

CARAWAY. *Carum carui.*

This common garden plant is a very useful carminative in flatulent colic. The seeds only are used and combined with senna obviate its griping effects. It is principally used however for culinary purposes.

SWEET SICELY. *Uraspermum claytoni.*

This well known garden plant rises two or three feet high, from thick roots, black externally, and of a pale yellow within; flowers of a yellowish white; and is found in moist meadows. The roots are demulcent and mucilaginous, and combined with spikenard is very useful in bowel complaints. The powdered root moistened with the white of eggs, forms a very useful strengthening plaster for weak backs, especially for females.

MEADOW CROWFOOT. *Ranunculus acris.*

This species of crowfoot has many dark green, fuzzy leaves, resembling a crow's or frog's foot. It bears many flowers of a bright yellow color succeeded by bead-like seed vessels, round and ragged like a pine apple. The taste is sharp and acrid, excoriating the mouth. An ointment of the leaves and flowers, has been used for producing vessication, and are said to have the advantage of cantharides, in producing a quicker effect, and in not causing strangury. It is a useful application to fixed pains, and in such

complaints as require a long continued discharge by way of issue. It may be made to produce a rubefacient or epispastic effect, according to the manner of using it.

CAMOMILE. *Anthemis nobilis.*

This garden plant has a grateful aromatic smell and makes a very excellent bitter for weak stomachs. In approaching consumptions a cold infusion of the bruised root, taken in the morning with milk, has proved very beneficial. The same may be taken for hysteria attended with weakness of the digestive organs. A warm infusion is useful in promoting the operation of emetics, and in common colds and catarrhs seldom fails of producing a gentle diaphoretic effect. The whole plant may be used. The flowers are beneficial in relieving flatulent colic, and were formerly in high repute and extensively prescribed for the cure of intermittents.

CROSSWORT. *Valantia.*

This plant rises about three feet high; leaves lance-shaped and grow opposite each other around the stem in fours. Flowers a bright yellow appearing in July and August. This plant is a useful expectorant and diaphoretic, and may be employed in colds, coughs, hoarseness, and to relieve obstructed perspiration.

CULVER'S PHYSIC. *Leptandra Virginica.*

This plant grows from two to three feet high; has large leaves, about five in number, growing round the stalk at about every four inches. The flowers are a pale yellow growing on the top of the stalk, and are produced in July. The roots are about the size of a man's finger, and are black with many small fibres. The medical properties of this root are cathartic. It is one of the best articles that I have ever used in bilious colic. It also operates very

powerfully on the blood, and cleanses it from bad humors. It is justly entitled to a superior place in the list of vegetable cathartics, and when combined with mandrake, is perhaps as powerful and efficient, as calomel in any of its combinations.

CLEAVERS. *Galium Aparine.*

This is a procumbent vine, found on low grounds, in meadows. It extends from four to six feet, climbing round and over whatever is near it. The leaves are eight, in a whorl, lance-like, and upper side whitish with sharp prickles, bent backwards. The flowers small but conspicuous, and divided into four parts,—first rather large, composed of two berries, slightly adhering and bristled.

Cleavers is one of the best diuretics that our country affords. I have found it an excellent and speedy remedy in suppression of urine, and in gravel. It has been found beneficial in spitting of blood and in scurvy. It is used in infusion, which should always be made with cold water; heat destroys its virtue. Four ounces of the dried plant to one quart of water is sufficient. This should be used daily for common drink. Combined with queen of the meadow and onion juice, it seems to possess solvent powers over the stone and gravel, causing it to crumble into a sandy substance so that it is discharged without difficulty.

When urinary obstructions proceed from a collection of slimy or muddy substances in the kidneys or bladder, this is a very effectual remedy. In inflammatory affections of the urinary organs, the infusion of cleavers is very valuable, possessing, as it does, detergent as well as diuretic properties. The cold nature of this plant renders it improper in dropsy and other diseases proceeding from debility.

The juice of this plant formed into a poultice with meal, is a valuable application to indolent tumours, to be renewed three times a day, keeping the bowels open in the mean time, with boneset pills, and administering a spoon full of the juice every morning. It seldom fails of dispersing tumours in a few days.

LOW CENTURY, American. *Sabbatia Angularis.*

This useful plant makes its appearance about the first of June; stem, erect about one foot high, and four-sided; leaves small, oval and opposite, the blossoms are small and numerous, pale red and white, appearing in September. This plant is found in abundance in New England, but is very scarce in western New-York. It grows on the farm of Wm. Bennet, in Gainesville, and near W. Blodget's mills. This is a very useful and agreeable bitter in all cases of debility and weakness of the stomach. In palpitations of the heart it is superior to all other remedies now in use. It promotes the secretions and restores tone to weak nerves, and is strengthening to the system in general.

GARDEN COLT'S FOOT. *Tussilago farfara.*

This plant makes its appearance early in the spring; grows four or five inches high, with yellow flowers on the top, expanding in April. It resembles the dandelion and is in some places cultivated. The roots are white, long and slender, useful in asthma, cough, and lung complaints. It is much used in consumption. The leaves made fine and used as snuff relieves catarrh.

AMERICAN COWSLIP. *Caltha Palustris.*

This common plant needs no description. It is a very healthy plant and should be used for spring greens by all. It purifies the blood and cleanses it from all bad humors and impurities, and causes regular alvine discharges in costive habits. It is a good diuretic and applicable in obstructions and inflammations of the bladder and kidneys, allaying heat and irritation in the urinary passages. It should be gathered in the spring, dried, pulverized and bottled for use. Dose, one table spoon full to a quart of boiling water, and used freely.

WILD CHERRY. *Prunus Virginiana.*

This tree is very common throughout the United States, and is well known. The bark is a powerful tonic and has been substituted for the Peruvian with great success. It is slightly narcotic, and commonly produces dizziness when taken freely, owing probably to the prusic acid which it contains. The bark of the root is the most powerful and is useful in dyspepsia and diseases of the lungs. A strong infusion of the bark proves anthelmintic, and is useful as a wash to ulcers of all kinds. Jaundice, agues, intermittent fevers and female obstructions, are benefited or relieved by this article taken either in infusion or tincture.

CAT-TAIL FLAG. *Typha latifolia.*

This plant is common in all swampy lands. The root is the only part made use of for medical purposes. The bruised root in combination with slippery elm, is useful in coughs and consumptive complaints, prepared by infusion in cold water, in the proportion of four ounces of the former and a spoon full of the latter to a quart of water. Externally it is beneficial in inflammations and swellings, and should be pounded and applied as a poultice. It may also be used for burns and inflamed irritable ulcers.

The down of the cat-tail mixed with lard, makes a very useful ointment for burns, scalds, and blistered surfaces; especially such as are left in an irritable and inflamed state of the cantharides. This is a very soothing ointment in allaying pain, and should be allowed to remain on until it comes off easily, or until the part is healed.

COW PARSNIP, Common. *Heracleum Sphondylium.*

Stalk large, tubular, invested with a down that covers also the leaves, which are jagged and in fives, of the color of wormwood.

It is a umbelliferous plant, flowering in June, and attains the height of from two to five feet. The root is divided into several long branches resembling parsnips or parsley; has a rank strong smell, and a pungent and almost caustic taste. Prof. Barton recommends the cow parsnip in cases of epilepsy, especially when it proceeds from, or is accompanied by flatulency. He commonly prescribed two or three drachms of the pulverized root; to be taken every day for a length of time, and a strong infusion of the leaves to be taken at bedtime. I have found it very useful in this disease, when administered as above directed. Prof. Bigelow also speaks highly of the efficacious powers of this article.

BLACK COHOSH. *Macrotys Serpentaria.*

This plant rises from four to six feet high; leaves large and deeply serrated; flowers on a raceme eight or ten inches long, they are white and appear in July and August. The root is large and black with many coarse fibres, and is the only part used. It is diaphoretic, sudorific and emmenagogue. A saturated tincture is useful in rheumatic affections connected with functional derangement of the skin. It possesses considerable power in promoting monthly evacuations, when the suppression is caused by colds, and is useful in allaying nervous irritation.

WHITE COHOSH. *Actæa Alba.*

This article possesses similar properties to the black; is a good emmenagogue, and tends to mitigate the pains to which females are subject; is considered beneficial in flower albus and other female affections. But as it possesses considerable power it should be used cautiously.

RED COHOSH. *Actæa rubra.*

This article is more of a styptic nature and is useful in internal

hemorrhages. The berries have been used to good advantage in moderating the monthly evacuations. It has a soothing, but powerful effect on the urinary organs in cases of chronic irritation.

BLUE COHOSH. *Caulophyllum thalictroides*.

Called by the Indians *poppoose root*. This plant differs from the other cohoshes though ranked with them. Its operations are the reverse of the red, though it somewhat resembles the black and white in its effects. It does not assist in a mild way in performing the required periodical evacuations, as life root, angelica, pennyroyal, &c., but is more of a uterine stimulant and requires to be cautiously used, as it is apt to induce profuse hemorrhage. In cases of doubtful gestation it has produced unpleasant effects, and should not be administered without professional advice. This root combined with savin, is one of the most powerful emmenagogues, with which I am acquainted. It should be used in infusion or tincture, in small doses and gradually increased.

COLUMBO. *Frasera caroliniensis*.

This root was formerly imported altogether, but of late years it has been found in great quantities, west, north and south of the Allegany mountains, but very little east of them.

The native columbo is in every respect equal to the imported, though not quite as strong. It is found in great abundance in the rich glades of the western States, and grows luxuriently, sometimes attaining the height of ten feet.

The American columbo is a very beautiful plant, having a large pyramid of crowded flowers, often three or four feet long. It is a true triennial, not producing its flowers until the third year. The root is large, hard, yellow, horizontal and spindle shaped; sometimes two feet long, with few fibres, the whole plant being

smooth. Stem from five to ten feet high, round, erect, solid, with few branches except those forming the pyramid of flowers. Flowers yellow; seeds similar to the parsnip, in pods. Columbo root is emetic and cathartic when green, but when dry, tonic, antiseptic, and febrifuge. It yields its strength to cold water, but the tincture is preferable. The dose is two drachms of the powdered root, or one ounce of the infusion. The root should be dug in the spring of the third year of its growth. It is useful in colics, fevers, indigestion, and for restoring tone to the stomach and bowels. As a purgative it is substituted for rhubarb, and is very serviceable in the first stages of gestation, by relieving nausea and correcting the secretions. It is much used in biliary affections, and produces very salutary effects, especially when combined with bloodroot.

CANCER MAPLE. *Acer barbatum.*

This shrub grows in cold, wet land, near gulfs and ponds, from four to six feet high. The leaves resemble the common maple, the top, limbs and twigs, are redish, and it produces the maple key. The bark of this shrub is highly recommended as a wash for ulcers, fever sores, and scald head. It is also useful, internally, as a detergent, in affections of the skin and impurities of the blood.

DANDELION. *Leontodon taraxacum.*

This very common plant is found to be very beneficial in liver and lung complaints. It has also proved very serviceable to those afflicted with gravel and other affections of the urinary passages. In hypochondriacal affections, it exerts superior curative powers, especially such as are connected with biliary derangement. Its effects are usually prompt in hepatic affections connected with a morbid secretion of bile. It may be used in substance or in extract.

DAY LILY. *Hemerocallis fulva.*

This plant rises two feet high, the leaves grow round the stem four or five inches apart, the flowers are large, striped and mottled with yellow and red. This plant is found in most parts of the country, in low wet meadows, and presents a very beautiful appearance. This is the best article that I ever used for a *prolapsus utera*; it restores tone and energy to the parts of generation, and is useful in cases of sterility, as it seems to exert a healthy influence on the ovaries and uterine appendages. All parts of this plant are used in medicine. It may be used in substance or vinous tincture, in the proportion of one ounce of the dry root to a pint. Dose, half a wine glass three times a day. In decoction it is useful, as an injection, in vaginal discharges.

YELLOW DOCK. *Rumex crispus.*

This plant rises about two feet; leaves long, narrow and curly; blossoms small and white, seeds numerous; root bright yellow, long, and is the only part used. It possesses some narcotic properties but is principally used in scrophulous and cancerous affections, in infusion, internally. As an external application it is used at the same time with the infusion, prepared as follows:—Four ounces of the root boiled in a quart of water to half a pint, add one pound of lard and one ounce of resin, simmer until the water is evaporated. This is a very useful cancer plaster.

WHITE DAISY. *Bellis perennis.*

This plant rises about a foot and a half high; leaves long and deeply serrated; flowers white, the centre tinged with yellow. It is found on poor soil. This is a very useful article in night sweats; ague and fever, and in hectic fever, taken in decoction.

DWARF ELDER. *Sambucus ebulus.*

This plant rises about two feet high; leaves of a bright green, in pairs, with an odd one at the end; flowers white. This plant is to be found in most parts of the country, in windfalls and partial improvements. Dwarf elder is diuretic and cathartic, and useful in dropsical affection taken in infusion. It is also beneficial in urinary obstructions, and combined with slippery elm, allays heat and inflammation of the urethra.

DOCKMACKIE. *Viburnum accrifolium.*

This shrub grows from ten to fifteen feet high; leaves large, and shaped like the mandrake leaves; bark striped green and white. This shrub has been held in high estimation amongst the Indians for cleansing the blood, and strengthening the system. The wilted leaves are beneficially applied to inflamed swellings. The dockmackie and moosmissa, or mountain ash, combined, will cure the scald head, and most eruptions of the skin. An infusion of these with green ozier, makes a valuable medicine for scrofula; to be used freely both internally.

ELECAMPANE. *Inula helenium.*

This well known plant is a valuable astringent, and highly recommended in coughs and consumptions, but it should be used in small doses, for if taken freely it is apt to produce fever, and diminish expectoration. It is best to combine it with comfery, slippery elm or other expectorants.

EYE-BRIGHT. *Lobelia cardinalis.*

This plant makes its appearance about the first of May and rises about two feet high; leaves pale green, coarsely serrated; flow-

ers of a deep scarlet appearing in September. It is found in wet soil all over the country. It is beneficially used in scrofulous affections, and cancers. The extract is a useful ingredient in cancer plasters. It has, by some, been mistaken for queen of the meadow, and described as such, though a very different article, both in appearance and medical properties, being strongly narcotic, while queen of the meadow is diuretic.

Eye-bright may be taken in substance or in infusion, in small quantities, regularly repeated.

The following preparation I have found very beneficial in coughs and incipient consumptions. Take four ounces of the fresh root bruised; one pound of honey or one pint of molasses; mix, and bake in an oven till soft. Dose, a teaspoon full three times a day.

FIRE WEED. *Senecio hieracifolius.*

This plant rises about five feet high, branching out considerably towards the top; leaves the size of the apple tree leaf; flowers succeeded by a soft, light down. The oil obtained from this plant by distillation, is used as an external application to stiff joints, contracted tendons, and inflamed swellings.

FEVER-BUSH. *Laurus benzoin.*

This bush grows from three to five feet high in moist land and is to be found in most parts of the union. Taken in infusion in fevers, it is a grateful, cooling drink, and assists in promoting expectoration.

FOXGLOVE. *Digitalis purpurea.*

This plant rises from two to three feet high; leaves of a deep green, shaped like the tobacco leaf and rough. It grows spon-

taneously in the Southern States and is cultivated in botanic gardens in this part of the country. It is extensively cultivated for medicinal uses by the Shakers at New-Lebanon. It is nervine, expectorant, and diuretic; valuable in pulmonary complaints, and kidney affections. Taken in large doses, it moderates arterial action, and makes the pulse slow and soft. It is a valuable medicine, but should be given only by skilful physicians. It is useful in dropsical complaints and difficult respiration, asthma and the like.

FROST PLANT. *Cistus Canadensis*.

This plant is to be found plentifully on Long Island. It grows from one to two feet high; leaves of a frost bitten color; flowers of a pale yellow, appearing in June. It is one of the most efficient remedies in scrofula, that I have ever used. I have cured the king's evil with this article, after all other means had failed. The bruised leaves are to be kept constantly applied to the diseased part, and an infusion of the plant used for common drink. It seldom fails to produce an amendment in a few days.

FENNEL. *Anethum foeniculum*.

The seeds of this plant only are used. It is a warming carminative, useful in flatulency and griping bowel complaints of children, especially when combined with the seeds of masterwort.

FLOATING HEART. *Villarsia Lacunosa*.

This plant frequently grows six feet under water. The root is found in the bottom of lakes and marshes, and sends a stem to the top of the water, where a heart shaped leaf is expanded and lies on the water. This root is used in palpitation of the heart, and for restoring tone to the stomach and bowels. A few drops of the expressed juice dropped into the ear, is useful in deafness.

FORGET-ME-NOT. *Cardamine pratensis.*

This plant makes its appearance about the first of May; leaves numerous; flowers white, appearing in June; grows freely when cultivated. It is emmenagogue and sudorific, and is to be relied on in all cases of female obstructions. All who have used this article will feel satisfied with the name I have adopted for it.

FERANIA.

This valuable plant rises about one foot high; leaves of a deep green, with many coarse veins on the upper side, running lengthwise of the leaf, which is one and a half inches long. The leaves grow very thick around the stalk, but not opposite; flowers blue, appearing in May and June. This plant is to be found in moist land, but is very scarce in this part of the country. It is emetic, expectorant and febrifuge.

Ferania is one of the principal articles in my fever solution, to which you have been often referred. The knowledge and use of this plant I obtained from a man who was taken prisoner by the Indians when small, and to whom the Indian doctor gave a full account of the plants used by them in curing diseases. Ferania is one of the best articles with which I am acquainted, in fevers, inflammations of the lungs, pleurisy, and hectic. Equal parts of ferania and wild turnip, taken in the quantity of two to four grains is most certain to relieve the nervous head ache. This quantity is to be taken in the morning. It acts on the liver very powerfully, cleanses the stomach, prevents burning, and frees the tongue from coat. It is also useful in asthma and chronic coughs.

FEVERFEW. *Matricaria Vulgaris.* The leaves and flowers.

This plant grows chiefly in gardens, and is so well known as to need no description. It is sometimes misnamed featherfew.

Both the wild and garden feverfew have the same virtues.— They are warm, aperient, carminative, bitter, and strengthen the stomach, expels wind, promotes the menses, destroys worms, and is beneficial in hysterical complaints and lowness of spirits. For a decoction pour two quarts of boiling water on two hands full of the leaves, of which a teacup full may be taken three or four times a day, in order to promote the menses; the same may be taken in colds and fevers. In hysterical complaints a teaspoon full of the compound spirit of lavender may be added to the above decoction.

MALE FERN. *Polypodium Felix Mas.* The root.

This plant grows on the mountains and among the rocks, in New-Jersey, and other parts of the United states. The leaves are fan-like, shoot from the root, curl round in their young state, and afterwards extend themselves three or four feet. The leaves spread wider than the female fern. The root, when chewed, is somewhat mucilaginous and sweet, and afterwards astringent and bitter.

The root of this plant has been found a powerful remedy for worms, especially the tape worm. This is the famous remedy of Madame Nouffler, of Switzerland, for the tapeworm. She acquired the knowledge of it from her husband, who was a surgeon, and obtained a great price for the secret from Louis XV. of France, by whose order it was published. The powdered plant was generally preferred by Madame N. and may be given in doses of from sixty grains to two drachms. It may also be taken in decoction, and drank freely, day after day, giving a purge of blue flag, or mandrake, to finish the operation.

Another method of administering it is, the day previous to taking the powder, to give a smart purge, as of blue flag, and after its operation to take a light supper. The next morning give three drachms of the powdered fern root, and two hours afterwards an-

other dose of the blue flag, and drink a teacup full of the skunk cabbage root decoction every hour till the tapeworm is expelled: taking care to sit on a close stool, and not break the worm, but pull it gently. In case the worm is not expelled the first day, the medicine is to be repeated the next. The worm has been destroyed by a drachm of the powder, without any purge.

FIVE FINGER, or CINQUEFOIL. *Potentilla Reptans*. The leaves and root.

The stalks of this grass, trail along the ground with long slender strings like strawberries; each stem has five leaves, placed together, of equal size, obtuse, serrated and veined; flowers yellow, and the root small. It grows by road sides, on meadow banks, and waste grounds.

The root is a gentle astringent, and has been found by experience to be very beneficial in fevers, and particularly when there is great debility, lassitude and night sweats, which last it seldom fails to check; it also helps the appetite. It is taken in decoction, or it may be boiled with milk. It is serviceable in allaying fluxes, immoderate flow of the menses, &c.

FUMITORY. *Fumaria Officinalis*. The leaves.

This plant rises to a foot high; leaves pale green, compound, doubly pinnated; flowers of a reddish purple, and grow in spikes, which arise from the axilla of the leaves. It grows common in cornfields, and by the side of fences.

Fumitory is a tonic bitter, and antiscorbutic, and has been found efficacious in the cure of leprosy and other cutaneous eruptions. For these purposes it should be drank freely in decoction. Two ounces of the flowers and tops infused in three pints of Maderia wine, and a wine glass taken twice a day, will strengthen the stomach and create a good appetite.

GARLIC. *Allium canadense*.

This article is antispasmodic and expectorant. It is useful in coughs, spasmodic affections, asthma and worms, which it disperses, by making applications to the stomach, of the bruised root.

GENTIAN. *Triosteum perfoliatum*.

This plant rises up early in the spring and grows about three feet high, leaves large, flowers yellow, appearing in June. It grows by the road sides and in old fields. The root is very bitter, and cathartic—may be taken in powder or pills and is a good family physic. It is a good article to put into beer or bitters for spring use.

GUELDER ROSE. *Viburnum opulus*.

This shrub is cultivated in gardens on account of its beautiful flowers, which are white and globular. It is usefully employed in canker and leucorrhea, being also a very good nervine.

GILL-OVER-THE-GROUND. *Glechoma hederacea*.

This plant or vine rises four inches high; leaves round; flowers blue, appearing in June and July. This plant is useful in hoarseness, difficult breathing, and in coughs. The expressed juice dropped into the ear, frequently relieves ringing in the head. In irritability of the nervous system, and hysteria, this article may be usefully given.

GINSENG. *Panax quinquefolium*.

This plant need no description, being well known and found in all parts of the country. Its curative powers have been higher

extolled by medical men than they should have been. I wish to give every plant its due, and this mild tonic may be of some service in weak stomachs, want of appetite, &c.

GOLDEN ROD. *Solidago Aspera.*

This plant rises from two to three feet; leaves oval and small; flowers yellow. The infusion is used as a cooling drink in common fevers.

GOLD THREAD. *Coptis trifolia.*

This plant has been held in high estimation for canker and sore mouth, but at the present day, better means are in use. It is beneficially employed in general debility, to restore tone to the digestive organs. It may be used in infusion or tincture.

GALBANUM. *The gum resin.*

This is a foreign drug, a native of Africa, and comes in pale colored pieces, about the size of a hazle nut. Proof spirit dissolves it entirely, the impurities excepted.

Galbanum possesses the virtues of the fœtid gums, and is used for the same purposes; dose from ten grains to a drachm. It is chiefly employed in the form of a plaster to white swellings, and is supposed to resolve and discuss tumors, and promote suppuration. In hysteric spasms and inflamed piles, an application of a tincture from this gum affords very effectual relief; but in the latter case, the painful parts ought to be covered with linen rags moistened in lime-water, before the tincture is dropped upon them.

GALL NUT. *Quercus Cerris.*

This is an excrescence growing on the Oriental oak, found in the warm countries of Europe.

Galls have an austere styptic taste, without any smell; and are

one of the most powerful astringents known. It is said that, by their internal use, in doses of half a drachm of the powder, intermittent fevers have been cured, when Peruvian bark failed. An infusion or decoction of the galls may be used with advantage as an astringent gargle; and an ointment of the finely powdered galls is used with success in the piles.

GAMBOGE. *Gambogia*. A Gum Resin.

A vegetable juice of a resinous nature, imported from the East Indies. The best sort is of a deep yellow color, divested of all smell, and has very little taste.

It is a violent cathartic, operating both upwards and downwards. It has been used in dropsies, in small nauseating doses, as a water purge, and will often bring away large quantities of water. Gamboge is also recommended to be taken for the tape worm, in doses of fifteen grains, early in the morning; and if the worm be not expelled in two or three hours, this powerful dose is said to have been repeated with safety and success, even to the third time. From two to four grains is a common cathartic dose. Great precaution, however, is requisite in the use of this precarious and active medicine. If too large a dose should be accidentally swallowed, the most effectual antidote will be copious draughts of a solution of pearlashes in water.

GARDEN PEONY. *Pæonia Officinalis*. The root.

This plant has been introduced into many American gardens, from Europe. Rises two feet high; leaves cut into lobes, which are oblong and pinnated; flowers large, and red.

It is noted for its virtues in the cure of epilepsy, and fits in children. The roots must be dug in March, dried, pulverized and kept in bottles. Adults subject to the epilepsy, may take a desert spoon full of the powder four times a day, in a teacup full of bit-

tersweet tea, also apply the bruised roots to the soles of the feet when going to bed.

GINGER. *Amonum Zigiber*. The root.

Ginger root is imported from the East and West Indies. It is in small wrinkled pieces, of a grayish color, having an aromatic odor, and a very pungent taste.

The root is frequently employed as a grateful and moderately powerful aromatic, either in combination with other remedies, or by itself, as a stimulant, particularly in dyspepsia, flatulency, tympanites, and gout. The spicy root is more immediately serviceable in cold flatulent colics; in laxity and debility of the stomach and intestines, and especially in torpid phlegmatic constitutions, in order to induce a more brisk action of the vessels.

GOLDEN SEAL. *Hydrastis anadensis*. The root.

Grows on rich, moist land; has a stem ten or twelve inches high, and often but one leaf, of an olive green color; there are sometimes two leaves, and on one of them is a kind of seed, or seal, which is red. The root is crooked, knobby, wrinkled, with many long fibres, and of a bright yellow. It is found from Canada to Tennessee. Taste exceedingly bitter.

It is sometimes known by the names of yellow root, ground raspberry, yellow paint, yellow eye root, Indian paint, orange root.

It is an estimable tonic, and at the same time laxative, which makes it very appropriate in dyspeptic disorders: also opthalmic, detergent, and stimulant. The plant is much used in the western states for diseases of the eye, the juice or infusion are used as a wash, in sore or inflamed eyes. It is considered a specific by the Indians for that disorder; they also employ it for sore legs, and many external complaints, as a topical tonic. Internally, it is used as a bitter tonic, in infusion or tincture, in disorders of the

stomach, *bile*, and liver. A half ounce of the dried pulverize roots, is sufficient to infuse in a quart of spirits.

This root appears also to be slightly narcotic, and is said to enter into many of the compounded remedies for cancer. Some Indians employ it as a diuretic, stimulant and escharotic, using the powder for blistering, and the infusion for the dropsy.

Golden seal bitters forms one of the best correctives of bile, and bilious habits, that can be given.

STINKING GOOSEFOOT. *Chenopodium Fætidum*.

This plant rises near a foot in height; leaves numerous, mealy and alternate; flowers small and inconspicuous, of a light green, and placed in clusters, but has no seed vessel. It grows near old walls, old ruins, dunghills, &c., flowers in August, and in its fresh state has the smell of putrid salt fish.

The green leaves are excellent medicine in hysteric and spasmodic complaints. In all hysteric fits, give the patient a teaspoon of the juice, or two teaspoons full of the dried leaves, in a little peppermint or peneroyal water, every two hours, which generally gives immediate relief, quicker and more effectual than assafœtida.

GUAIACUM. The wood and resin.

Guaiacum, or lignum vitæ, is a native of the West Indies. The wood and gum are the parts used in medicine. The wood is hard and heavy, of a yellow color, has little smell and a moderately bitter taste. Gum guaiacum is of a friable nature, of a deep greenish color, and sometimes of a reddish hue, and has a pungent acrid taste.

The general virtues of guaiacum are those of warm aromatic medicine; it strengthens the stomach and other viscera, and greatly promotes the discharge of urine and perspiration. Hence it is of especial service in cutaneous eruptions, and disorders arising

from obstructions of the excretory glands; in rheumatic, and mercurial pains, it has often afforded considerable relief. It was at one time supposed to be a radical cure for the syphilis, but alone, it is not to be depended on, though it forms a valuable adjunct to other remedies for that disease, and enters into most of the syrups and preparations used in it. The gum is likewise a good laxative: when dissolved in rum, or combined with water by means of mucilage, or the yelk of an egg, or in the form of tincture or elixer, it has been found useful in chronic rheumatism, or even in such wandering pains of the stomach and other parts of the body as could be attributed to the retrocedent gout.

The form in which guaiacum wood is administered is always that of a decoction. A quart of it is drunk in the course of a day. If taken warm it produces sweat.

GUM ARABIC.

This, the purest of the gums, is obtained by spontaneous exudation from the mimosa tree. It is in small irregular pieces, white or yellowish, semi-pellucid, without taste or smell. It has all the properties of gum; is insoluble in alcohol or oils, and soluble in water, forming a viscid solution, termed mucilage.

Gum arabic is used as a demulcent. It is useful in dysentery, diarrhœa, strangury and heat of urine, when it should be given in solution. It forms an excellent basis for all cough mixtures. In pharmacy, mucilage of gum arabic is employed for a variety of purposes. It serves to suspend heavy powders in water, gives tenacity to substances made into pills, and it effects a partial union of oils, balsams, and resins, with water.

GUM TRAGACANTH.

Is the product of a very thorny shrub, which grows on the island of Candia and some other places in the Levant. It comes in

small wrinkled pieces, semi-transparent, and brittle; has neither taste nor smell, and is entirely a pure gum. It is greatly superior to all the gums in giving viscosity to water, its power in this respect being to that of gum arabic as twenty-four to one. Its solution is not perfectly uniform unless boiled for some time.

Tragacanth has virtues similar to gum arabic, and is principally employed as a demulcent, to blunt acrimonies, and as a pharmaceutical agent.

HELLEBORE. *Veratrum Album.*

This plant grows from two to three feet high, with large leaves and white flowers appearing in June, and is found in wet land. There are two species of this herb, the black and white. The former is a virulent poison, and ought not to be much used internally; but the root made fine, is used as snuff in catarrh, and a poultice of the bruised root is useful in the gangrene. The white hellebore is not so much of a narcotic and may be taken internally, if administered by a skilful physician. It is said to be beneficial in rheumatic affections.

HYSSOP. *Hyssopus Officinalis.*

This well known garden vegetable is a valuable article in coughs and consumptive complaints. An infusion sweetened with honey is also used for hoarseness, and common colds.

HARVEST FLOWER.

This plant rises four or five feet high and branches thick towards the top, leaves long, flowers peach blow or purple, appearing in July. It grows in dry soil where improvements have been made. It is to be found on the hills about Warsaw, though rather scarce. This is an invaluable plant and has been one of my particular fa-

vorites in female hemorrhage, whether they occur at confinement, at the turn of life, or in abortions. It is the female's friend and no doubt has saved many a valuable life. This herb is to be relied on in all forms of uterine flux—no danger need be apprehended from its use. I usually give it as follows. Take one table spoon full of the leaves, half a pint of boiling water; steep; when cold give a table spoon full once in three hours, in urgent cases, once in twenty or thirty minutes.

HOREHOUND. *Marrubium Vulgare.*

This well known plant is held in high estimation for coughs, colds and asthmatic affections. When made into a syrup with loaf sugar or honey, it is useful in incipient consumption. I believe it has prevented many from having the disease confirmed.

HOP. *Humulus lupulus.*

This article, usually employed in domestic uses, is a valuable medicine. It is useful in jaundice and biliary obstructions, connected with debility of the digestive organs. Hops applied to swellings, bruises and nervous pains of the head and face, by way of fomentation, exert an anodyne effect, thereby affording considerable relief. It is used in infusion, drank freely in colic pains; and boiled in vinegar, may be applied externally in severe cases. The hop is an excellent tonic and particularly useful in dyspepsia, hysteria, and spasmodic colics, attended with habitual weakness of digestive organs.

HEMP. *Cannabis sativa.*

This plant is cultivated and well known. The seed only are used, being recommended as a remedy in diabetes and weakness

of the kidneys. In cases of diminished nervous energy they are frequently employed. The bruised seed may be infused in warm water and drank freely.

HOG-WEED. *Lycopodium selago.*

This plant rises about four inches high and grows in beds matted together, and is found in old fields and gardens. This is a useful emmenagogue, and is beneficially employed in obstructed menses, especially when caused by taking cold.

HEALALL. *Prunella Vulgaris.*

This plant grows about six inches high; leaves deep green and oval; flowers blue. This plant contains considerable mucilage, and in the form of a poultice may be applied to inflamed swellings, bruises, burns, &c.; or made into an ointment by simmering the fresh leaves in lard or fresh butter, may be used as a dressing to common sores.

HORSE BALM. *Collinsonia Canadensis.*

This plant grows from two to three feet high; leaves are large, smooth and opposite; flowers yellow, appearing in August; is found in rich land. This plant is very useful in rickets, given as follows:—

Take two ounces of the dried roots, two ounces of squaw root, one ounce of camphor; digest in one pint of brandy six days. Wash the part affected three times a day, rubbing it thoroughly before a warm fire.

HART'S TONGUE. *Asplenium Scolopendrium.* The leaves.

The leaves of this plant are long, tongue-shaped, entire, pointed, on radical foot-stalks, of a shining black color, and waved at the margin. It grows among the rocks in shady places.

It has an astringent quality, and when made into an ointment, is beneficial in curing burns and the piles; and when taken internally infused in wine, prevents the spitting of blood, and is effectual in the cure of the diarrhœa and dysentery. It may be administered in decoction, in wine; or made into an ointment with linseed oil and mutton suet.

HEMLOCK TREE.

The boughs of this well known tree may be employed with advantage for fomentations and sweatings in colds, rheumatism, fevers, &c. I have known many lives saved during an epidemic fever, by giving the decoction internally, and fomenting externally. The oil is also used in colds and coughs.

HORSE RADISH. *Cochlearia Armoracia.* The root.

Is well known, chiefly cultivated in gardens, and grows wild in wet grounds, and about old ruins.

The medicinal effects of this root are to stimulate the solids, and promote the fluid secretions; it seems to extend its action throughout the whole habit, and affects the minutest glands. It is greatly recommended in dropsies, particularly those that succeed fevers; when it should not only be taken internally, but applied to the feet, and elsewhere, to quicken the action of the vessels. In paralytic complaints, horse radish has often been applied with advantage to the affected parts, as a stimulating remedy. Horse radish has been found beneficial in chronic rheumatism, asthma, and all diseases of debility and torpidity of the blood; and should be eaten freely with the food. When steeped in vinegar during a fortnight, it is said effectually to remove freckles on the face. A syrup made by boiling scraped horse radish in brown sugar, is an excellent remedy in the decline of colds and pleurisies, to promote expectoration and remove hoarseness.

HIGH CRANBERRY, or CRAMPBARK. The bark.

Grows in swamps, from six to ten feet high, shrub like, leaves resemble a goose's foot; flowers white, in clusters, berries in clusters, turn red after frost comes, and remain through the winter. The berries strongly acid, and the bark bitter.

Crampbark, is a powerful antispasmodic, and is very effectual in relaxing cramps and spasms of all kinds. A tincture of it may be made in wine by infusing an ounce of the dried pulverized bark in a quart of wine: dose, a wine glass twice a day. A decoction answers the same purpose, and may be most convenient in cases of emergency.

INDIAN PHYSIC. *Gillenia trifoliata*.

This plant rises from two to three feet high, the leaves are about the size of an apple tree leaf, and of a similar shape; flowers white, appearing in July. This plant is emetic, cathartic and tonic, and is found in rich low lands. The root is black externally, and woody. The bark of the root is the part used in medicine; it should be separated while green. In small doses it gives tone to the stomach and bowels, especially in cases of general debility. As an expectorant it is usefully employed in chronic coughs, in substance or in syrup, when it should be taken in slightly nauseating doses; and combined with opium, may be used in dysenteric affections as a sudorific. As an emetic, it may be given in the dose of about a teaspoon full of the powdered root. Taken daily in doses of two to four grains, it is a preventive of fevers of a bilious character, cleanses the stomach of morbid bile, and increases digestion.

INDIGO WEED. *Baptista tinctoria*.

This plant rises about two feet high, leaves lance shaped, branches numerous, the flowers yellow, opening in June. The leaves

are applied to all inflamed swellings, quinsy and gangrene. The leaves simmered in lard or fresh butter, make a very good ointment for white swellings.

INDIAN HEMP. *Asclepias*.

This plant grows from two to five feet high; leaves large; blossoms in clusters, and are succeeded by large pods filled with a silky down. The root is beneficially employed in cases of dropsy. I use it also, in my worm powder. This and the bog-bean are two of the best vermifuges now in use, so far as my knowledge extends.

ICELAND MOSS. *Lichen Icelandicus*.

This is very common in Iceland, and also grows in abundance in the northern and mountainous parts of the United States. This lichen is foliaceous, tough, variously divided into blunt lobes, turning in at the edges, and fringed with short strong bristles. The shields are large, and of a reddish brown color on the lobes of the leaves. It grows on trees and rocks.

Iceland moss has of late become quite popular as a remedy for consumption, and although its virtues have been considerably overrated, it is undoubtedly a valuable medicine in pulmonary affections. It is extremely mucilaginous, and to the taste is bitter and somewhat astringent; its bitterness, as well as the purgative quality it possesses, when fresh, are in a great measure dissipated by drying, so that the inhabitants convert it into a tolerably pleasant food. An ounce of this moss boiled a quarter of an hour in a pint of water, yields seven ounces of a mucilage as thick as that produced by the solution of one pint of gum arabic in three of water.

Prepared in a syrup, it is an efficacious remedy in consumptions, coughs, dysenteries, and diarrhœas. In dysentery, particularly, it is very successful, after cathartics and emetics, and it may be conjoined with opium. For a decoction, an ounce and a

half may be boiled for a quarter of an hour in a quart of milk, of which a teacup full may be drank frequently in the course of the day. If the milk disagree with the stomach, a simple decoction, or syrup may be used. It is sometimes combined with hyssop, hoarhound, wild cherry, and butternut bark, and made in a syrup.

ICE PLANT. *Erystallinum.* The root.

This plant rises about six inches in height, is white, pellucid, and so tender, that when handled it dissolves and melts like ice in the hand; the stalks and leaves are like frozen jelly. It grows in the woods in New Jersey, and may other parts of the U. States, and is found in September, as white as snow.

The root has been found to be almost an infallible remedy for fits in children, and is called fit root by the people in the country. In some parts they dilute the juice in cold water, as a remedy for sore eyes. The root should be dried, pulverized, and bottled up. Children troubled with fits may take from half a teaspoon full to a whole one, three mornings, both before the full and change of the moon, in a teacup full of peony root; or in valerian tea for epilepsy in adults. The expressed juice mixed with rose water, will cure the most inveterate inflammations of the eyes; observing such other evacuations as are necessary.

INDIAN PHYSIC. *Gillenla Stipulacea.* The root.

This belongs to the same class as the preceding, and is principally found in the states west of the Allegany, where it is known by the name of western dropwort. This species is smaller than the former.

The root is dark brown, with large and long fleshy fibres; several stems, from two to three feet high, slender, smooth, brittle, reddish, branched; leaves large, alternate, sessile, with three leaflets, and two large appendages; flowers in terminal scattered shafts, and white. Roots scentless; taste bitter.

This like the other species, is emetic, cathartic, and tonic; but the *stip ulacea* is by far the best and strongest. This is highly esteemed and generally used in the western states. The bark of the root, which is collected in the fall, is the part principally used. The dose is from fifteen to thirty grains of the powder. It operates often as a cathartic: In small doses it becomes a tonic, and is used in intermittents.

JACOB'S LADDER. *Smilax peduncularis.*

This vine grows from five to twenty feet, climbing up bushes and large trees, the leaves are oval, flowers white, expanding in July, and are succeeded by black berries which remain on during winter. The root and berries are used in urinary obstructions, whether of the kidneys or bladder, in tincture, with gin. In infusion with slippery elm, it may be taken in cases of inflamed urethra.

JUNIPER. *Juniperus communis.*

This evergreen shrub attains the height of from two to six feet; leaves thick and bushy. A decoction of the root is a valuable wash for the shingles. The berries are diuretic and may be employed in all cases of gravel, or obstructions of the kidney, and in dropsical affections. To be taken in infusion.

LAUREL. *Kalmia glauca.*

This shrub is an inhabitant of the Tonawanda swamp. It grows three or four feet high; leaves long and dark green. The pulverized leaves are used as a snuff in cases of catarrh, frequently with good effect.

LIFE ROOT. (*Rad. Vita.*) *Jacobeaea aurea.*

This celebrated and grateful plant rises from six to eight inches high; leaves of a deep green, about the size of a silver dollar,

of an oval form and notched around the edge; stem rises about two feet high; flowers yellow, opening in June. The main root is about as large as a small goose quill, with many white fibres.

This plant is found in wet, mucky places, near rivulets supplied by living springs, throughout the United States. It possesses valuable medicinal properties, being diaphoretic, diuretic and carminative, and one of the most efficient emmenagogues ever used by physicians. Life root is beneficial in colds, coughs, asthmatic and pulmonary complaints, and in inflammations. Take three table spoons full of life root, two teaspoons full of skunk cabbage, one teaspoon full of angelica, all pulverized; boiling water, one pint. Dose, a wine glass full three times a day.

This composition is the *green tea* I have dealt out so much amongst my patients in western New-York. It is not only very enlivening to the blood, causing a quick circulation, but greatly promotes the periodical evacuations, and relieves obstructions from taking of colds. The feet should be bathed, and the tea drank warm at bed time. This is a very useful diaphoretic in childbed fever, if taken in season and freely for a few days. This tea has been found beneficial in cases of gravel, affections of the kidneys, and diabetes. As an external application, it is useful in bilious colic and inflammation of the bowels, as a fomentation, to assist the operation of physic by relaxing spasm, giving action to the bowels, and by inducing perspiration.

LOBELIA. *Lobelia inflata.*

The plant grows spontaneously by road sides, in pastures and open woods. It reaches from six to eighteen inches high; stem branching, leaves ovate, flowers blue, appearing in August and September, and are succeeded by pods containing many small seeds. The leaves when held in the mouth are biting and acrid, and have a taste resembling tobacco.

Half a teaspoon full of the dried leaves or pods, operates as an

emetic, and when rightly administered, it opens obstructions of the liver, causes free perspiration, reduces excitement, allays thirst, and operates peculiarly on the glands. Half a grain taken in cold water greatly relieves the asthma, and may be useful in croup.

Lobelia is one of the articles used in my fever solution, and is good in all cases of fever, inflammation of the lungs and flatulency.

LADIES' SLIPPER. *Cypripedium pubescens.*

This plant grows about two feet high; leaves large; flowes inflated and oval, with stripes on the sides, appearing in June. This is a good tonic and nervine, and supplies the place of valerian. It is useful in spasmodic and nervous cases. In the weaknesses of females, and prolapsus uteri, it restores tone to the parts, eases pain and procures sleep. It may also be used in epilepsy.

LIVEFOREVER. *Sedum Telephium.*

This is a well known garden plant. The leaves bruised and applied to inflamed swellings, have produced very good effects. Dr. Barton recommends the juice of this plant, mixed with an equal quantity of gin, to be applied to inflamed eyes, of the chronic kind.

LUNGWORT. *Lichen pulmonarius.*

This article grows on the white oak tree and is useful in coughs. An infusion sweetened with honey and freely used, is very beneficial in consumptions and chronic, or sympathetic coughs. Another species may be found on the white maple, possessing similar properties.

WILD LETTUCE. *Lactuca Virosa.* The leaves, and extract.

This plant rises four feet high; it has three different kinds of leaves: those proceeding from the root are slightly toothed; those

from the stem are cut into pinnated lobes; and others attached to the flower stalks are arrow-shaped, pointed, entire: the flowers are yellow and small. It grows wild about the hedges, rough banks, and along the sides of high meadows. The leaves are milky and smell like opium, and resemble it in some of its effects, and its narcotic power, like that of poppy, resides in a milky juice.

An extract prepared from the expressed juice of the leaves of this plant, gathered when in flower, is recommended in small doses. In dropsies of long standing, proceeding from visceral obstructions, it has been given to the extent of half an ounce a day. It is said to agree with the stomach, to quench thirst, to be gently laxative, powerfully diuretic, and somewhat diaphoretic. Plentiful dilution is allowed during its operation. It helps its operation to take it in cohush tea.

LIFE EVERLASTING. *Gnaphaleum Polycephalum.*

Also called white balsam, Indian posey.

Grows in old fields and on dry and barren lands, from one to two feet high, with small narrow leaves; branches towards the top; flowers in a cluster, white and furzy, and continue on during the winter; it has a pleasant aromatic smell.

The blossoms chewed, and the juice swallowed, prove a sovereign remedy for most kinds of sore throat. Drank in a warm decoction produces diaphoresis in fevers; it is excellent in quinsy, weak lungs, fluor albus, consumption, &c. It forms an excellent fomentation in cases of quinsy, sore throat, pleurisy, &c.

LAVENDER. *Lavendula Spica.* The flowering spikes.

Lavender is a small perrennial shrub, a native of the south of Europe, but frequently cultivated in our gardens for perfume. The flowers of both have a fragrant agreeable smell, and a warm pungent, bitterish taste. There are two varieties; the broad leaf-

ed sort is the strongest in all respects, and this only is used in the distillation of the oil called oil of spike.

Lavender is considered as a warm stimulating aromatic. It is principally used as a perfume.

MARYGOLD. *Tagetes erecta.*

This well known garden plant is given to children in cases of the *red gum*, and to allay puking. It may be employed as a drink in fevers, to promote perspiration.

MANDRAKE. *Podophyllum peltatum.*

This plant is generally known. The powdered root taken in the dose of a teaspoon full operates as an emetic. One fourth of this, taken once in four hours proves cathartic. It may be employed in fevers and where full evacuations are required. It is very useful in costiveness, as it leaves the bowels longer in a lax condition than most other cathartics. It is less apt to sicken the stomach than common purgatives, and may be administered when they are rejected. It is safe and active in its operation, and particularly recommended in bilious fevers and dropsical affections.

MARES-TAIL. *Hippuris vulgaris.*

This plant grows about four feet high; leaves lance shaped, the stem erect, round, and bushy at the top; flowers numerous, small and white, appearing in June. This plant is highly styptic: useful in profuse menstruation and diarrhœa. The bruised leaves applied to fresh wounds generally stop the flow of blood.

MASTERWORT. *Imperatoria astruthium.*

This plant vegetates early in the spring, and grows from three to four feet high; leaves broad and deeply serrated; stalks hollow

with many joints; flowers white, appearing in June. It is common throughout the Union, found also in gardens. The root and seeds of masterwort are used principally for flatulency, wind colics, and wherever carminatives are indicated. It is useful in hypochondrical affections and for languid and feeble pulse, being an agreeable stimulant. It may be beneficially used to increase absorption in dropsical subjects. It ought to be kept in every nursery on account of its carminative powers.

MARSH ROSEMARY. *Statice Limonium.*

Grows about feet high; leaves numerous, lance-ovate; flowers pale red, appearing in August. This plant is much used in dysentery. A decoction of the root makes an excellent gargle in canker, and ulcerated sore throats, and is particularly recommended for these affections by Dr. Barton. It is abundant in the Tonawanda swamp.

MELILOT. *Melilotus Vulgaris.*

This plant is cultivated in gardens; grows about four feet high; leaves obovate serrate; flowers white, appearing in June. The fresh leaves of sweet clover simmered in lard or oil, is a useful application in inflamed swellings by way of liniment, and may be used as a dressing to brused sores.

MOTHER OF THYME. *Thymus Serpyllum.*

This herb is cultivated in gardens and grows a foot and a half high; leaves small; flowers purple, appearing in July. The leaves of this plant in infusion are useful in internal hemorrhage, as profuse menstruation,—it alleviates pain, and as a preventive to abortion, it is very serviceable.

MOTHERWORT. *Leonurus cardiaca.*

This plant is well known and well named. It is useful in hysteric affections, as a nervine and antispasmodic. Drank in infusion, it relieves the stomach of wind and restores quietness to the nervous system. It is possessed, too, of some tonic powers, and taken cold, may be used in debility of the digestive organs.

MAY WEED. *Anthemis cotula.*

This article is used in colds, coughs and hoarseness, being a powerful sudorific when drank warm. It is beneficial as an external application in inflammatory attacks. Fomentations of May weed may be used in pleuritic and rheumatic cases in the onset, and will sometimes afford prompt relief.

MOUNTAIN ASH. *Sorbus Americana.*

This shrub, sometimes called *moos missa*, grows from ten to twenty feet high; flowers white, succeeded by clusters of bright red berries. It is not very plenty in this part of the country. It may be found in the Tonawanda swamp and in China, Genesee county, near the lake. The bark is a very efficacious remedy in scrofulous affections as a detergent to the blood. It is useful in fever sores, white swellings and scald head; used both internally and externally, it rarely fails to effect a cure in the last complaint.

MILKWEED. *Asclepias Obtusifolia.*

This plant grows from two to three feet high, with large leaves, flowers in clusters, purple, appearing in July, and roots white. This article is useful in dropsical affections. Being of a sudorific and laxative nature, may be beneficially employed in colds, and costiveness when hepatic obstruction obtains.

MOOSWOOD. *Dirca palustris.*

Grows about two feet high; branches and leaves are thick; the bark only is used. Taken in infusion, as a common drink, it is very useful in coughs and consumptions. In debility of the digestive organs, it may be beneficially employed.

MOUNTAIN FLAX. *Polygala Seneca.*

This valuable plant grows about a foot high, the flowers are white and appear in June. It may be found in Avon and Mount Morris, Livingston county, New York. It is a useful tonic febrifuge and expectorant, and may be used in pulmonary complaints, coughs, colds, and the like. In inflammatory fevers it may be given as follows: one teaspoon full of the pulverized root in half a pint of boiling water, steep, sweeten with honey or loaf sugar. Dose, one table spoon full every three hours.

MOUSEAR. *Gnaphalum Dioicum.*

This grows about four inches high; leaves small; flowers blue, appearing in September. This is said by Dr. Barton, to be useful in summer complaints of children, in relaxation of the bowels and in piles.

MUGWORT. *Artemisia Vulgaris.*

This plant rises three feet high; leaves pale green, resembling wormwood; flowers white, opening in July. It is cultivated in gardens, and is used in cases of obstructed menstruation, caused by taking cold. It is efficacious in quieting bearing down pains, after confinement; and in painful female affections of the back or loins, it exerts a soothing composing effect.

MULLEIN. *Verbascum thapsus.*

This plant is very abundant, and useful in bowel complaints and hypochondria. The leaves moistened in warm vinegar, may be

applied to inflammations, and swellings. An infusion of mullein and sweet elder makes a useful injection in summer complaints of children.

MUSTARD. *Sinapis alba.*

This cultivated plant is much used for culinary purposes, and possesses some important medicinal properties. The pulverized seed mixed with rye flour, or Indian meal, forms a very useful poultice in local inflammations whether acute or chronic, frequently blistering the part, and producing a free discharge. It is also a good application to the feet or ankles in fevers. The seed taken whole, is beneficial in dispeptic complaints attended with costiveness. Dose, a table spoon full in milk.

Mustard is sometimes usefully administered in paralytic cases, as numbpalsy, and should also be externally applied. It appears useful in debility of the digestive organs, especially when attended with cold hands and feet.

MAIDENHAIR. *Adiantum Pedatum.* The herb.

This plant is found in deep woods and rich soil, throughout the United States. The root is large, fibrous and brown. Stalk about a foot high before it branches, of a chesnut color, shining and smooth; branching into two, each branch bearing several long leaves resembling brake or fern.

Maidenhair is expectorant, mucilaginous, and sub-astringent. It is used in decoction, or syrup. It is much esteemed throughout Europe, although little known in America. It is found useful in all coughs and hoarseness, also in asthma, and tickling of the throat, and even in pleurisy and all disorders of the breast. It promotes the secretions, strengthens the fibres, and helps the cure of jaundice. It is a very good vehicle and auxiliary for pectoral remedies, and even cathartics. Licorice may be added to the de-

coction, to render it more efficient. Influenza is often cured by using this syrup; and it has the advantage, that it may be taken in an unlimited dose.

MANROOT, or BINDWEED. *Convolvulus Panduratus*. The root.

Also called man-in-the-ground, wild potatoes, wild rhubarb, me-chameck, potatoe vine, &c.

Is common all over the United States, in poor, loose, sandy soils, upon glades and thickets. Its top is weak and trailing, running along the ground much like a grape vine, and set with large triangular leaves; flowers, which grow on long stems from the axilla of the leaves, are large, bell-shaped, and whitish, with a purple tinge. The root is very large, hard, yellowish, from two to four feet long, as thick as the arm, milky inside, running deep into the earth, and often branched below.

Its properties are cathartic, diuretic, and pectoral. It acts like jalap, rhubarb, or scammony, at a larger dose, when given in substance; but the extract from the fresh root is more efficient, and is a mild cathartic in a dose of ten or twelve grains. It is often used by the Indians. As a diuretic it is useful in gravel, stranguary, dropsy, &c.; it enables to evacuate small calculous substances, and may be taken in substance or decoction. As a pectoral, it has been used for consumptive coughs, and asthma: a syrup made of it with skunk cabbage is used for that purpose.

It is asserted that the Indians can handle rattlesnakes with impunity, after wetting their hands with the milky juice of this root. It should be collected at the end of summer, and if to be dried, ought to be cut in slices.

MEADOW SAFFRON. *Colchicum*. The root.

This root, and preparations from it, have been employed by the faculty in many diseases. It possesses great power, but it is un-

certain and unsafe, from the variableness of its strength; the root in autumn is almost inert; but in the beginning of summer, an acrid poison. In large doses, it is a deleterious acrid narcotic; in smaller ones, a cathartic and diuretic. The German physicians have celebrated its virtues as a diuretic in dropsies, asthma, and some other chronic diseases. Afterwards, infused in wine, it became quite popular as giving relief in the gout. Its use was soon extended to chronic rheumatism, and other painful affections, though with equivocal success.

Colchicum has lately been given most frequently in powder. Five or six grains may be taken three times a day, by an adult. It is always proper to begin a new root with small doses, till you have ascertained its strength, as an over dose might be fatal.

MEZEREON. *Daphne Mezereum.* Bark of the root.

Also spurge laurel. An indigenous low shrub, growing in woods and shady places, and flowering in February or March. It grows plentifully in the vicinity of the Ohio river. When cultivated in gardens, in a rich soil, it attains to the height of sixteen feet.

This whole plant is so corrosive that six of its berries are said to kill a wolf. The bark of the root, when chewed for sometime, is extremely acrid to the taste, exciting an insupportable sensation of burning in the mouth and throat.

Mezereon is a stimulating diaphoretic, and has been found serviceable in chronic rheumatism, and cutaneous diseases. Its principal use is in syphilis, as being particularly efficacious in removing venereal nodes, and disposing ulcerations to heal. It is given in the form of decoction: two drachms of the bark, with half an ounce of licorice root, being boiled in three pounds of water to two pounds, and four or six ounces of this given four times a day. It is generally combined with sarsaparilla, when it forms the "compound decoction of sarsaparilla," kept in the shops.

MISLETOE OF THE OAK. *Viscum Album.* The leaves.

This is a parasitical plant, something like a large bush; it grows on various trees, but that which is found on the oak is chiefly used. The branches are regularly forked, leaves ending obtuse, in pairs; berries white, smooth, globular and clustered, remaining through the winter, and contain one fleshy seed.

It should be separated from the oak about the last of November, gradually dried, ground into a fine powder, and confined in a bottle well stopped.

Mistletoe has been recorded as an efficacious remedy in epilepsy, by many eminent physicians, both ancient and modern: the reason why it has failed in later trials of some practitioners, is probably because they did not prescribe a sufficient quantity, or because it had been long exposed to the air, when it lost its virtues.

To begin, the dose may be a teaspoon full four times a day, in valerian tea, increasing the dose to two or three teaspoons full, according to its effects.

MONKSHOOD, or WOLFSBANE. *Anconitum Napellus.* The herb and root.

This is a perennial plant, found on high mountains; it is common in Germany. It grows from two to five feet high; leaves lobed, deeply laciniate, standing alternate, upon long footstalks, the surface of the leaf of a deep green, the under side whitish; flowers numerous, terminal, of a deep purple, and hood-shaped.

The fresh plant and root are very violent poisons, producing remarkable debility, paralysis, and other consequent symptoms. By drying, their acrimony is almost entirely destroyed. For medical use the root must be gathered before the stem shoots.

When properly administered, it acts as a penetrating stimulus, and generally excites sweat, and sometimes an increased discharge

of urine. On many occasion it has been found a very effectual remedy in glandular swellings, venereal nodes, stiffened joints, amaurosis, grouty and rhematic pains, intermittent fevers, and convulsive disorders.

It is commonly used in the form of an inspissated juice, or extract. It is an unfortunate circumstance, that the powes of this medicine vary much, according to its age, and the heat employed in its preparation. When fresh, its action is often too violent, and when kept for more than a year, it becomes totally inert. Therefore it may be laid down as an universal rule in the employment of this and many other similar medicines, to begin with very small doses, and to increase them gradually to the necessary degree. We may begin by giving half a grain of the extract of monkshood, made up into a pill with any convenient substance, twice or thrice a day, gradually increasing the dose.

MAPLELEAF ALUMROOT. *Heucheria Acerifolia*. The root.

Also alumroot, ground maple, splitrock, sanicle, &c.

The root is perrennial, yellowish, horizontal, crooked, with few fibres; leaves radical, on long hairy stems, shaped like those of the maple tree; flowers very small, forming a long panicle, occupying half the length of the stem, flesh colored; seeds small and black. There are several species of this plant.

The root of these is a powerful astringent, antiseptic, vulnerary and detergent, and is equal to cranesbill. It was used by the Indians, in powder, as an external remedy in sores, wounds, ulcers, and even cancers. It is employed as a styptic in internal and external hemorrhage, bleeding at the nose, foul or indolent ulcers, wounds and cuts. It is seldom taken internally, the taste being so intensely astringent; but it promises to be useful even in very small doses, where astringents are indicated.

MOUNTAIN DITTANY. *Cunila Mariana*. The herb.

Also, stonemint, wild basil, sweet horsemint, &c.

Rises about a foot high, stem smooth, yellowish or purplish, slender, brittle with many long branches; leaves large at the base, arrow-shaped, smooth, pale green; flowers small but handsome, of a pink, or white color, forming terminal clusters; root perennial, fibrous and yellow. It is found on mountains and dry hills, in all parts of the United States. The whole plant has a warm, fragrant, aromatic, pungent taste and smell.

Dittany is a stimulant, nervine, sudorific, subtonic, vulnerary, cephalic, &c. The whole plant is used, and usually taken in infusion warm. Dittany tea is a popular remedy throughout the country, for colds, headaches, and whenever it is requisite to excite a gentle perspiration. It partakes of the properties of the grateful aromatic plants, and also of the camomile; while it affords a more palatable drink. Its fragrant tea is preferable to that of sage; it has neither the pungency of mint, nor the nauseous smell of pennyroyal. It relieves nervous headache, and hysterical disorders. It is used in the southern states, in fevers, to excite perspiration, and suppressed menstruations. It is a useful drink in nervous colics, and indigestion. Externally, it is employed for bruises and sprains; and was one of the plants resorted to for curing the bites of serpents. The essential oil possesses all the properties of the plant, and a few drops are sufficient to impart them to mixtures.

NERVEWORT.

This small nervine makes its appearance early in the spring, grows from six to twelve inches high, with one stem, branching towards the top, and bears some resemblance to the brake; the root is dark colored with many coarse fibres. Very useful in all nervous affections, trembling of the hands, palpitation and headache. It gives tone to the whole nervous system.

NIGHTSHADE. *Atropa Belladonna*.

This poisonous plant rises about a foot and a half high; leaves

a very dark green; flowers yellow, appearing in July; berries dark blue. This plant has a nauseous, sickly smell. It is not to be used internally, but as an external application to scrofulous tumours, indolent swellings, ulcerated and gangrenous surfaces.

NOBLE LIVERWORT. *Hepatica triloba.*

This plant rises up with several leaf stalks, from the root, four or five inches high; leaf three lobed, upper side spotted, lower side downy; root fibrous and black. It is found on the north side of hills in beach and maple timber. It is useful in liver complaints, either in infusion or syrup. Liverwort is also a good expectorant and may be freely used in pulmonary affections.

OAK OF JERUSALEM. *Chenopodium botrys.*

This plant grows from one to two feet high; leaves thick, fine and deeply toothed; flowers small, of a pale blue, appearing in August. It has a sweet aromatic flavor, and an adhesive, gummy feeling. This plant is expectorant and gently tonic: useful in colds, coughs, asthma and consumption; in infusion combined with spikenard, liferoot, garden colt's foot, hyssop and black snake-root, and made into a syrup with sugar or honey, it is very efficacious in the aforementioned complaints.

PARTRIDGE BERRY. *Mitchella Repens.*

This is a creeping plant, from six to ten inches long, leaves roundish, small, opposite and deep green; flowers white, opening in July; berries red. It rather inclines to grow in cold soil, on the north side of hills, though it is found in most parts of the Union. This is a good diuretic in all kidney complaints, and dropsical affections; it is also serviceable in biliary obstructions. It is taken in infusion and drank freely.

PENNYROYAL. *Hedeoma Pulegioides.*

This plant grows from six to twelve inches high; leaves small; flowers blue, appearing in July. This is a very warming carminative: useful in colds, warms the system, promotes perspiration, and female obstructions. It is useful to those affected with cold hands and feet, or colic pains, and it may be drank during the operation of emetics.

PEPPERMINT. *Mentha Piperita.*

This well known plant prefers moist situations along the sides of streams. It is often cultivated on account of its oil. It is a useful carminative, and diffusible stimulant, applicable in spasmodic affections, flatulent colics, and faintings; combined with motherwort, it may be given in histeria and falling sickness.

PITCH PINE. *Pinus Rigida.*

This tree, though common, grows most plentifully on barren sandy plains. The knot of the pitch pine, rasped and tinctured, with spirits, or wine, is useful in all old complaints of the breast, stomach or side, caused by sprain or too much exertion: used also in bleeding from the lungs. The white pine possesses similar properties, and may be used when the other is not to be obtained. The white pine bark is used in bowel complaints of children, with very good effect, where there is not much arterial excitement.

PLANTAIN. *Plantago Major.*

This well know plant is to be found in door-yards, gardens, and about the fields. It is a useful application to all inflamed swellings, abating heat and pain. It is recommended by Dr. Barton, in erysipelas and for the bites of poisonous animals.

POKEWEED. *Phytolacca decandra.*

This plant rises four or five feet high; leaves large; flowers white, opening in July; berries red, in clusters.

The plant is one of the narcotic kind; the root is poisonous. The bruised root is applied to the feet, in fevers and inflammations. Made into an ointment it is very efficacious in eruptions of the skin and scrofulous affections, prepared by evaporating the expressed juice of the leaves and mixing it with lard or fresh butter. By some, the root is used in chronic rheumatism, internally; but I think the berries are more safe and equally useful, taken in tincture. The juice of the berries, evaporated to a proper consistence are applied to cancers, with good effect.

POND LILY. *Nymphaea Odorata.*

This plant grows in standing water; is found in lakes and marshy places, and is admired for its beautiful white flowers. Pond lily is astringent and diuretic, and is said to be useful in kidney complaints, and heat in the urethra. It is highly recommended in uterine fluxes, as fluor albus, gleet, and profuse menstruation. It may also be employed in canker and sore mouths.

POPPY. *Papaver Somniferum.*

It is from this well known plant that opium is obtained; it is a good remediate article and decidedly narcotic in its operation. It is obtained by scarrifying the capsules and evaporating the juice to a proper consistence. The leaves of the poppy are beneficially applied to painful parts, as they possess much of the qualities of opium.

PRICKLY ASH. *Xanthoxylum Fraxinum.*

This shrub grows from five to ten feet high; limbs beset with short prickly thorns, and oval leaves. The berries and bark are

used in medicine. They are warming and pungent: found useful in rheumatic affections, and paralytic complaints, and may be taken in spring bitters to remove obstructions and recruit enervated systems.

PRICKLY PEAR. *Cactus Opuntia.*

This article is cultivated in gardens, and is mucilaginous and expectorant: useful in hectic fevers, dry cough, hoarseness and asthma.

PRINCE'S PINE. *Chimaphylla Umbellata.*

This plant grows five or six inches high; leaves are dark green and grow very thick on the stem; flowers white opening in July; roots long, yellow and horizontal. The whole plant is used, and is found in cold soil, in pine timber, and hemlock lands. Prince's pine is a valuable diuretic, and much used in some places in rheumatic affections. It deserves particular notice as a remedy in dropsical effusions and urinary obstructions. It may be taken in infusion to the extent of a pint daily.

PUFF BALL. *Lycoperdon Bovista.*

This is a valuable styptic, useful to arrest the bleeding from fresh wounds. The inside made into an ointment with the same bulk of lard, forms a highly valuable ointment for burns, scalds, and for blistered surfaces, that have become inflamed and irritable.

PUTTY ROOT. *Corallorhiza Hyemalis.*

This plant makes its appearance early in the spring, sends up a stem about ten inches high, with scales, but no leaves, and has pods near the top. The root is about the size of a garlic, white and glutinous. This is a strengthening root: useful in weakness and bowel complaints, and agues of long standing.

PLEURISY ROOT. *Asclepias Tuberosa*. The root.

Also called orange swallowwort, butterfly weed, flux root, wind root, silk weed, &c.

The root is perennial, large fleshy, white, crooked, or branched; several stalks, either erect, or procumbent, round, hairy, green or red. Leaves scattered, on short stems, hairy, lance-like, and obtuse; flowers of a bright or orange color, appearing in July and August. It rises about four feet high, and is one of the most beautiful American plants. It grows chiefly on poor and gravelly soils, and along streams, and is found all over the United States, but more abundantly in the south.

The root when dry is easily pulverized; it is somewhat bitter, but not unpleasant.

Pleurisy root is subtonic, diaphoretic, expectorant, diuretic, laxative, carminative, antispasmodic, &c. It is a valuable popular remedy and a mild sudorific, acting safely, without stimulating the body. It is supposed to act specially on the lungs, to promote suppressed expectoration, and to relieve the breathing of pleuretic patients. It appears to equalize the circulation, and exert a mild tonic effect, as well as a stimulant power, over the excretories. It relieves difficult breathing, and pains in the chest. It often acts as a mild cathartic, suitable for the complaints of children; and is also useful in hysterics, profuse menstruation, dysentery, &c.

But in flatulency, colics, and griping pains in the stomach, its benefits are most conspicuous, in giving quick and effectual relief. It has quickly removed many misnamed "Liver Complaints," under my direction. For these it is best given in powder, a teaspoon full every half hour till relief is obtained.

In a low state of typhus fever it has produced perspiration, when other sudorifics had failed. In inflammation of the lungs, and catarrh, it is always beneficial. It restores the tone of the stomach and digestive powers. It has been given in asthma, rheumatism, syphilis, and even for worms.

An attested publication has lately appeared, in which it is stated that the pleurisy root, taken freely in a strong decoction till it vomits, has cured the bite of a rattlesnake in repeated instances. Taken in that quantity, it creates a profuse sweat, which carries off the poison.

Taken in repeated doses till it creates perspiration, after proper evacuations, it is supposed to be a specific in pleurisy, generally removing it in three or four days.

The common doses are from twenty to thirty grains of the powdered root three times a day; or a gill of the decoction and infusion every few hours.

QUEEN OF THE MEADOW. *Spirea Ulmaria*.

This valuable plant grows from three to five feet high; stems redish at the base; leaves grow round the stalk in fives, about four inches apart; flowers redish purple, appearing in August. This is a valuable diuretic, and is highly esteemed in cases of gravel, and obstructions in the kidneys. It affords very prompt relief in strangury, and abates inflammation. Drs. Barton and Bigelow, recommend the root of this plant as very efficient in dissolving the stone in the bladder; taken in the following manner: Queen of the meadow, two parts; ox balm, one part; one table spoon full of red onion juice; to be taken in gin, using at the same time smartweed tea for common drink.

RATTLESNAKE PLANTAIN. *Neottia Pubescens*.

This plant grows amongst beech and maple timber, rises about four inches high and is very beautiful; the upper side of the leaf is curious variegated.

This plant was formerly supposed to cure the bite of the rattlesnake. Its principal use is in scrofula and cancer, being a very efficacious remedy in these complaints. An infusion of the plant

should be taken for constant drink, to cleanse the system; and if the case be scrofula, the bruised leaves and roots may be applied to the swelled part, and renewed twice a day. As a dressing to a scrofulous or cancerous ulcer, the fresh plant simmered in fresh butter, for an ointment, is an extremely useful remedy, easing pain and improving the condition of the sore.

RHEUBARB. *Rheum palatum.*

This plant may be cultivated in gardens, but it is generally imported, and procured at the shops. It is a valuable medicine being cathartic and tonic. You will, in another part of this work, find a preparation of rhubarb which I value very much, and have used extensively in my practice. It is as follows:—Take three teaspoons full of pulverized rhubarb, put into a teacup, fill with boiling water, stir it five or six minutes, let it settle clear, turn off from the sediment, add as much soda as will lie on a shilling piece and eight teaspoons full of loaf sugar.

One teaspoon full three or four times a day, is a very appropriate remedy in weakness and relaxation of the bowels, in the summer complaint of children, dyspepsia, and habitual costiveness; restoring tone and regularity to the digestive organs.

RUE. *Ruta Graveolens.*

This is a garden plant, grows about a foot high; leaves small; flowers yellow, opening in July. The leaves moistened and applied to the skin, will raise a blister. It is used internally in scurvy and affection of the lungs, especially when tubercles are suspected.

ROSE. *Rosa Centifolia.*

This much admired and well known shrub, is a valuable astrin-

gent; the leaves put in wine or taken in tea, are useful in many of the female weaknesses, sore mouth, canker, and weak bowels.

RUSH. *Equisetum Hyemale.*

This article grows from one to two feet high, with a naked, jointed stem, and is found in wet land. This is a valuable diuretic: useful in affections of the kidney, gravel and strangury. It may be steeped and taken as a tea, or put into good gin. It generally affords relief in suppression of urine.

ROSE WILLOW. *Salix Rubra Rosalis.* The bark of the root.

This tree is about the size of a small apple tree, and covered with a greenish colored bark, and very red within; the flowers resemble a bunch of roses, from whence it derives its name. It grows near brooks, along the banks of rivers, and on upland meadows: it is known throughout the United States by the name of red rose willow, which distinguishes it from the black willow, or the puss willow, which grows in swamps and along the sides of moist meadows.

The bark of rose willow is an excellent tonic and astringent. It is very beneficial in strengthening and bracing up weakly women, laboring under the whites, relaxation, bearing down, &c.; and likewise in restraining immoderate flowing of the menses, and is used with considerable benefit in intermittent fevers, for which purpose it answers all the purposes of Peruvian bark.

For use, one pound of the bark may be boiled to three quarts; to which add three pints of port wine, and four ounces of loaf sugar. Dose, a teacup full three times a day as a tonic, &c. to be continued till well. It is equally useful in gleet when the pure decoction may be used for injection.

ROSEMARY. *Rosmarinus Officinalis.* The flowering tops.

Rosemary is a shrubby perennial, which grows wild in the south

of Europe, and is cultivated in gardens. It has a fragrant smell and a warm, pungent, bitterish taste, approaching to those of lavender: the leaves and tender tops are the strongest; the flowers themselves are considerably the weakest, but most pleasant. From the leaves, tops and flowers of this plant an essential oil is prepared; or, when distilled with spirits of wine, they afford the celebrated *Hungary water*.

These liquid medicines are esteemed excellent cephalics, in nervous and hysterical affections, and have been found eminently serviceable in apoplexies, palsies, and vertigoes, in which cases they are sparingly applied to the temples and forehead.

SAFFRON. *Carthamus Tinctorius*.

This well known plant is cultivated in gardens and is a useful diaphoretic in eruptions of the skin especially where they recede from the surface, and cause sickness and general distress. It is employed to allay nausea and vomiting, and is commonly taken in tea.

SANICLE. *Sanicula Marylandica*.

This plant grows about three feet high; leaves of a dark green, growing mostly on one side of the stem; flowers white appearing in July. It has a bur on the top which remains until fall, and may be found among oak timber, where the soil is rich. This article is diaphoretic and febrifuge; valuable in hectic and inflammatory fevers. It produces perspiration, allays irritability, and mitigates fever. It may be used in recent colds and asthmatic complaints. It is taken in tea, and freely used.

SARSAPARILLA. *Smilax Sarsaparilla*.

This plant makes its appearance early in the spring; leaves not large; flowers white, opening in May, the root is white and hori-

zontal, sometimes three or four yards long. Sarsaparilla root is very cleansing to the blood, and used after mercurial courses, for long standing fever sores, cancers, venereal disease, and scrofulous complaints. It is useful taken in syrup in the spring, to correct the blood and strengthen the system.

SASSAFRAS. *Laurus Sassafras.*

This is a well known shrub and much esteemed on account of its fragrance. The essential oil which it contains is useful in nervous affections, and catarrh. The twigs, steeped, are beneficial in coughs and consumptions. The bark of the root is thinning and cleansing to the blood, and helps to put it in a lively, active state, and may be used as a soothing and healing diuretic in irritation of the urinary passages.

SAVIN. *Juniperus Sabina.*

This shrub is scarce in the western districts, but it may be found on the sandy hills, east of Albany, in abundance. It grows from two to four feet high and resembles cedar.

Savin is a very active and powerful emmenagogue, and should be dealt out in small doses, by a skilful hand; it hastens the customary evacuations of females, and should not be taken in every situation in which they are placed. It is obtained at the shops.

SAVORY. *Satureja Hertensis.*

This is a well known garden plant, much used for culinary purposes—it also possesses good medical properties. Taken in infusion, greatly promotes the fluid secretions, and assists the excreting vessels in performing their offices. In cases of gangrene it may be used both internally and externally.

SCABISH. *Erigeron Heterophyllum.*

This plant grows three or four feet high; leaves large; flowers yellow, appearing in July—is found in rich interval land, near rivers that overflow their banks.

This plant is mucilaginous and diuretic; the bruised leaves are usefully applied to inflamed, painful swellings. The leaves of scabish and bark of bittersweet simmered in fresh butter, forms a very bland, cooling ointment, for painful sores, piles, and many eruptions of the skin. In difficulty of discharging the urine, attended with pain and a sensation of heat, it may be usefully employed. It is much esteemed in gravelly and dropsical complaints.

SCULLCAP. *Scutellaria Lateriflora.*

This plant rises about one foot high; leaves small; flowers blue, appearing in August. It is celebrated in cases of hydrophobia, bites of snakes, and scrofulous complaints.

SHEEP BERRY. *Viburnum Lentago.*

This is a shrub, grows in low swamps, about ten feet high; blossoms white; berries black. The inner bark is yellow, and the only part used. It is tonic and strengthening to the system, and acts favorably on the liver, regulating its secretions. It is useful in eruptions of the skin, cleansing the blood, and altering secretion. It is also a beneficial worm medicine, especially for the small pin worm. It may be taken in substance, in wine, or in infusion.

SHIN LEAF. *Pyrola Rotundifolia.*

This plant has two large leaves, three or four inches long, lying flat on the ground, of a dark green color, with a naked stem ris-

ing from between them, supporting a spike of reversed flowers. The leaves are applied to scrofulous swellings and inflamed sores, they are of a sweating, healing nature. These leaves and live-forever simmered in fresh butter are a very useful remedy in weak and inflamed eyes.

SKUNK CABBAGE. *Ictodes Fœtida.*

This well known plant has a nauseous, disagreeable smell, resembling the skunk. It grows in wet, marshy places, the leaves bear some resemblance to cabbage. It possesses very considerable antispasmodic powers, indeed it is one of the best in the vegetable kingdom. It is a very useful palliative in spasmodic asthma, and has afforded prompt relief in nervous and hysteric cases. In chronic cough, difficulty of breathing and consumptions, it is very generally given with evident advantage. It is also useful in epilepsy, given before or during the fit.

SNAKE ROOTS.

There are six species of plants belonging to the class of snake roots, all very valuable medicines. The colt's foot is one of the best aromatics now in use, and has raised many that have been much reduced by severe fevers; it is extremely useful in intermittents.

Black Sanicle snake root, is a very useful diaphoretic in fevers and inflammations. *Seneca* snake root is very useful in syrups in cases of general debility. *White* snake root possesses similar properties, and may be combined with it or used in its place. *Lion's foot* snake root is used to prevent gangrene in the latter stages of fever, and to restore tone to the system. *Virginia* snake root is a useful tonic in debility of the stomach, and very beneficial in measles. This combined with the *black sanicle*, will bring out the eruption when all other remedies fail.

SNAKES HEAD. *Chetone Glabra.*

This plant grows about one foot high; leaves small, opposite; flowers red, opening in June; may be found in wet land. This plant is said to cure the bite of the rattlesnake and other poisonous animals. It is useful in scrofulous complaints.

SOLOMON'S SEAL. *Convallaria.*

This plant grows about two feet high; leaves grow mostly on one side of the stem; flowers white opening in July. The root is large and white, with many joints or seals, whence its name. It is found in most parts of the United States, and is very abundant on the Genesee flats. This is a good tonic in relaxed states of the bowels, cleansing to the blood, and strengthening to the system.

SORREL. *Oxalis Acetosella.*

There are two species of this plant, the *sheep sorrel* and the *wood sorrel*. The juice of the wood sorrel mixed with water, is a very cooling beverage in fevers. The expressed juice of the sheep sorrel, dried in the sun, is said to make a good cancer plaster, especially when combined with an equal quantity of skoke-berry ointment.

SOUTHERN WOOD. *Artemisia Abrotanum.*

This plant rises about a foot and a half high, the leaves are fine and compact; it is cultivated in gardens and possesses nervine properties, and may be given in hysteric and spasmodic affections.

SPICE BUSH. *Laurus Benzoin.*

This shrub grows about four feet high, the bark is dark colored,

spotted with white. Spice bush is found in low lands, and makes a cooling, grateful drink in fevers, taken in infusion, cold.

SPIDER-WORT. *Convallaria Bifolia.*

This plant rises six or eight inches high; leaves oval; flowers white, opening in June; is found in wood land. This is a useful little plant in fevers and inflammations, and may be taken in infusion, in cold water and freely used.

SUNFLOWER. *Helianthus Annuus.*

This plant is cultivated in gardens and so well known that it needs no description. The seeds are the only part used for medicinal purposes. Half a pint of the sunflower seeds, in a quart of gin, makes a very useful remedy in asthmatic complaints, and chronic coughs.

SPIKENARD. *Aralia Racemosa.*

This plant rises about three feet high; leaves large; flowers white, appearing in June. It is to be found in all the states. The root and leaves are used. There is a valuable balsam obtained from this root by distillation: used for pain in the breast, weakness of the lungs, and cough. The root bruised and applied, is beneficial in gangrene, and made into an ointment with fresh butter, is very useful in swellings, bruises, wounds or other injuries.

TANSY. *Tanacetum Vulgare.*

This plant is diaphoretic and emmenagogue. Taken in infusion, it is useful for weak stomachs, prevents puking, quiets wandering pains, and is very useful in obstructed periodical evacuations, and promotes perspiration.

TOUCHWOOD. *Boletus Laricis.*

The pine touchwood is a valuable medicine in weak debilitated states of the stomach, brought on by too much exertion, and for spitting of blood, taken in tincture. It is used in pulmonary complaints as a healing, restorative medicine, and in cases of debility of the digestive organs.

TEASEL. *Dipsacus Sylvestris.*

This plant grows about four feet high; flowers pale red, appearing in July, and succeeded by large burs—to be found in all the States. The root of this plant, in infusion, is useful in gonorrheas, gleans, and seminal weakness, and may be used, also, by way of injection in these affections.

TURNIP. *Brassica Rapa.*

This well known vegetable possesses useful medical properties. Eight ounces of turnip and four of garlic, or two of hyssop, boiled to one quart, is very beneficial in coughs and consumptive complaints, as an expectorant.

TOBACCO. *Nicotiana Tobacum.*

There are so many good judges of this article, that I shall not undertake to describe it. Although it is a poison, it may be used externally in scrofula and ulcers of long standing, either in decoction or ointment.

TWIN LEAF. *Jeffersonia Diphylla.*

This plant rises six or eight inches high, with two leaves about as large as the palm of the hand, and has single white flowers ap-

pearing in June. It is not common in the western part of this State. Its medical properties very much resemble, the Virginia snake root, and it may be used whenever that is indicated.

UNICORN ROOT. *Alteris Farinosa.*

This plant grows about eight inches high; leaves narrow and long; flowers white, appearing in July. It is found in oak timbered land, all over the country.

This plant is tonic, strengthening to weak stomachs, increases the appetite and cleanses the blood. It makes a very useful spring bitter, and is valuable in rickets. It may be taken in infusion or wine.

VALERIAN. *Valeriana Officinalis.*

There are two species of this article the imported and the American. They both possess active nervine properties, and are beneficial in nervous, spasmodic, and hysterical affections. In severe cases, castor may be added. This is a good remedy in epileptic convulsions.

VERVAIN. *Verbena Haslata.*

This plant grows about two feet and a half high; leaves lance-shaped and deeply serrated; flowers pale blue, appearing in August—and is found in low wet land. This plant is tonic and nervine: useful in weak debilitated states of the stomach, palpitation and trembling. To be taken in wine or in infusion.

VIOLET. *Viola Arvensis.*

This plant rises about four inches high; leaves heart-shaped; flowers white, appearing in May. This plant is mucilaginous; beneficial in bowel complaints, dysenteries and fevers.

VIRGIN BOWER. *Clematis Virginica.*

This beautiful plant rises about two feet high; leaves oval, in fours, and opposite; flowers large, of a beautiful peach-blow color. This is a very scarce plant in this part of the country, but is found in abundance on the White hills east of Albany. This is a very useful lady's medicine, being the most efficacious article ever used in prolapsus, or irritation of the neighboring parts, to be taken in infusion, and washing with a syringe, the affected parts. The bruised leaves, moistened with water and applied to painful, irritable and inflamed parts, diminish pain and very promptly afford relief.

WAKE-ROBIN. *Arum Triphyllum.*

This well known and much used plant needs no description. It is very useful in coughs and colic. It enters into the composition of my fever powders, to which you have been often referred, being one of the most efficient febrifuges with which I am acquainted.

WINTERGREEN. *Gaultheria Procumbens.*

This plant rises four or five inches high; leaves oval; flowers white, appearing in June—most common amongst evergreens.

The medical virtues of this plant reside in the oil, which is obtained only by distillation, is fragrant, and useful in all uterine and urinary complaints, when not attended with inflammation or irritation.

WORMWOOD. *Artemisia Absinthium.*

This is a bitter and well known garden plant. The oil obtained from this vegetable, is useful in bruises, wounds and lameness. The bruised leaves may be applied when the oil is not to be had.

YARROW. *Achillea Millefolium*.

This plant grows from one to two feet high; leaves flat and deeply toothed; flowers white, appearing in July and August. It is very common, and useful in all hemorrhages, especially in profuse and immoderate menstruation. This article, harvest flower, and valerian taken by females at the turn of life, assist nature in her change, especially when the evacuations are weakening, restores strength and vigor to the constitution, and prevents the onset of more serious diseases. Yarrow is very useful to nursing women who are troubled with weak stomachs. It is always to be taken in tea, cold. The cold infusion may be drank freely until it produces the desired effect, unless rejected.

The following valuable recipes were inadvertantly omitted when the others were printed. As they are important, the author concluded rather than omit them entirely, to insert them immediately after American Remedies.

The following is the Canadian recipe for the hydrophobia referred to in Dr. Earl's letter:

HYDROPHOBIA.

ST. ANDREWS, L. C. Feb. 26, 1836.

Messrs Editors—In your paper of the 20th inst. I find a notice copied from the Journal of Commerce, that one of your most respectable merchants had been bitten by a mad dog; and being in possession of a certain remedy for that dreadful disease, hydrophobia, I beg leave to communicate it to you, in the hope that it may be received and applied in the case referred to, before it may be too late. The remedy can in no case do any harm—and I have known it tried in many cases, always with success. I have resided here more than 25 years, and although canine madness is

more common here than in any other country, I have never known a fatal case of hydrophobia when this has been applied. It is universally known and used among Canadians. I am acquainted with six persons who were bitten from eight to fifteen years ago, by dogs that were abundantly proved to be mad, from the fact that animals bitten immediately thereafter, died with every symptom of hydrophobia; but by the use of this remedy, are in perfect health. I am aware that a remedy coming from such a distance, and from a stranger will not be very likely to meet with a very cordial reception; but I am induced to give it in the hope that its evident harmlessness will ensure a trial. It is as follows:

Take three spoons full of oyster shell lime, powder it and sift it through a piece of book muslin. To this add a sufficiency of egg to give it a consistency something like soft dough—fry it in a little fresh butter or olive oil. Let the patient eat this cake in the morning, and abstain from food or drink, at least six hours. This dose repeated for three mornings in succession, is, in all cases sufficient.

As it may be satisfactory to know something of the character of the writer, I beg leave to refer to you Charles H. Castle, Esq., Cashier of the City Bank, Montreal.

Yours, with respect,

GUY RICHARDS.

DOCT. MORRISON'S NOTED PREPARATION FOR PRODUCING PERSPIRATION, AND FAMILY PHYSIC.

Skunk cabbage root and scouring rushes, powdered, makes a sweat not to be surpassed. One table spoon full with one pint of hot water, and drank as hot as can be borne, will produce sweating; after done sweating take physic, as follows:

One ounce of cloves, one ounce of mace, one ounce of cinna-

mon, one ounce of gum myrrh, one ounce of English saffron, one ounce of ginger, six ounces of aloes; pulverize all together and wet it with spirits and make them into pills. Six pills is a dose of physic.

FEMALE DISEASES.

INTRODUCTION.

There is another class of diseases for which I cannot with propriety, omit to give some directions, cautions and prescriptions, as it is one with which I have had much to do for the last thirty years of my practice.

The female constitution is very much debilitated and reduced at the present day, yet notwithstanding their irritable and enervated systems, they have many difficult scenes to pass through in the course of life, being mostly mothers of children, and having many cares and anxieties, as well as much fatigue to endure. Few, indeed, arrive at the good old age of three score and ten. The father, with all his paternal care, can never supply the place of a mother in a family. His business is on the farm, or in the mechanic shop—hers in the nursery and among those entrusted to her care. No matter whether her constitution be weak or strong, her concern and anxieties increase, and she is called to pass through many critical scenes, in regard to health and life. Many serious hours of contemplation does she have alone, perhaps in the midst of prosperity. Every heart knows its own sorrows, and the mother's reflections are often locked up in her own breast, and never revealed even to her best friends.

It is well these gloomy seasons do not always last; time, with its many changes, brings new joys and warmer affections to the disconsolate. There are many consolations for them in these trying seasons. Their friendly female associates who sympathize

with them in their afflictions, can give them many comfortable things to assist them in their troubles, and the counsel and advice of their confidant physician, will direct them in all difficult cases, and prescribe such remedies as will assist them in their trying seasons.

It would be very gratifying to the author of this treatise, to give the names of the organs, in medical language, but as latin phrases would not be so well understood, and as I have, in my preface, hinted that I would be plain, you will excuse me, and allow me the use of our common language. I will endeavor, however, to treat the subject with becoming modesty, and as this work is not intended for the speculator, or ridiculer, but for the sick and distressed—for the physician and heads of families—their offspring and those who may survive me,—I ask their indulgence while I describe such female diseases as have fallen under my observation, and their appropriate remedies.

MENSTRUATION.

From childhood to twelve or fourteen years of age is the most uniform part of female life, in respect to the changes of the system, but about this time the great Author of their existence calls upon them to fill the important stations he has allotted to them in life. Much depends on this critical period, in respect to the enjoyment of good health for the remainder of their days. It is remarked by wise observers, that this period of life is one of the most critical through which the female has to pass.

In this latitude the periodical evacuations take place at the age of fourteen or fifteen years, and continue for a term of thirty years. It is remarked by some eminent writers, as Dewee, and others, that in southern latitudes it commences much earlier, generally at twelve years, and continues the usual time.

Considering the reduced state of the female constitution at the present day, much more pains must be taken to strengthen the

system with warming carminatives, strengthening syrups, and recruiting teas, than in former years, when they were of a plethoric habit, and wore the rosy cheek. I know there are some few good constitutions, at the present day, who pass over these critical periods without much indisposition of body, while others of a slender make and delicate frame, are liable to linger for months and years, until the system is much reduced and enervated, when other diseases, as dropsy, or consumption terminate their existence.

In all lingering cases, if the general health suffers, make free use of the above mentioned articles, for the preparation and use of which, you will find directions at the close of this subject.

Previous to the commencement of the periodical evacuations there is a progressive pressure of the circulation from the heart and arteries, to the head, which is the first effort nature makes to their introduction. This pressure continues until the veins are filled to their extremities, and this distention commonly produces headache, palpitations, or fluttering of the heart, with every little exercise, which continue until the catamenial discharges take place, and are established, when these very unpleasant symptoms cease.

I mentioned in my introduction, that cautions were useful as well as prescriptions; permit me to leave one here for the benefit of the young female, of the age I have mentioned. It is my best advice to you, to be very temperate in all your labors, exercises, and merriment; be cautious about lifting heavy kettles, pails of water, or carrying them a distance—heavy luggage was never intended for the delicate, slender female, and these ambitious exhibitions, have often laid the foundation for years of sickness, sorrow and pain—they prevent nature, in all her efforts, in establishing good health. It is very important for the female, to be well shod, both summer and winter, and not to suffer their feet to be wet or damp, and by no means to wash them in cold water or wade in the water, but always to wash them in warm water before going to bed.

Again I would observe, that evening air does not conduce to good health, but the contrary; to be out any length of time when heavy dews are falling, so as to dampen the clothes, is very injurious to health, so also the cold of winter when shivering or chillness is produced. The female should, as much as possible, avoid the extremes of heat and cold, as they tend to irregularity and derangement of the system; be warmly and suitably clothed and be temperate in all things. But in the commencement of these evacuations remember the above cautions, especially for the first year, until they are well established in the system, when there will be less liability to derangement.

FEMALE SYRUP.

Take of spikenard, sarsaparilla, comfrey, solomon seal, meadow cabbage, angelica, masterwort, wild cherry bark, gill-over-the-ground, snakeroot, and liferoot, of each a handful; boil in an iron kettle in four quarts of water to two: strain, add a pint of rum or three pints of wine, a pound of loaf sugar, and a table spoon full of pulverized cinnamon bark. Dose, half a wine glass three times a day, before eating.

FEMALE NIGHT TEA.

Take two table spoons full of liferoot, one teaspoon full of angelica and two teaspoons of meadow cabbage, all pulverized and intimately mixed. Steep one teaspoon of this compound in half a pint of boiling water, to be taken at bed time.

DYSMENORRHEA.

Painful Menstruation.—This is a very common disease at the present day, being also a very painful one to the unhappy sufferer, and frequently very obstinate and difficult to control. It would,

perhaps be difficult to assign all the remote causes of this complaint, although it is usually induced by taking cold in a critical period of life. The married and unmarried are alike subject to this disease; the suffering at the menstrual periods is severe almost beyond description, and resembles in kind and intensity the pains of labor. It usually commences by a slight menstrual show, which is sometimes suddenly arrested, when pains almost immediately ensue, which are described by women to be of a forcing bearing down kind, returning at longer or shorter intervals, until, as Dewees has mentioned in his work on female diseases, a membranous substance is discharged. It will be found of variable size, sometimes small, at other times large and resembling the cavity of the uterus in shape. After the expulsion of this substance, the patient enjoys ease from pain until the next period arrives. The quantity discharged is sometimes very small, even with much suffering, at other times very abundant. I have seen a portion not larger than a finger nail, and again have witnessed as much as would fill a common wine glass.

The period employed for the expulsion of this substance is also variable, sometimes requiring but a few hours, at other times several days, and the degree of suffering is not always in proportion to the quantity of substance expelled; indeed, the pain would appear to be less when much is discharged, which perhaps is not of difficult explanation.

There appears to be two distinct states of this affection; one where the breasts sympathize with the uterus, by becoming tumid and extremely painful; the other where there is no such affection. These two conditions are not equally manageable—perhaps there might be some previous seat of inflammation on the kidney or abdomen, or, by taking cold at the time of the periodical evacuation so as to produce inflammation of the uterus, and cause a contraction of its inner surface, so as to delay or prevent the progress of the customary evacuation.

Besides the alternate, or labor-like pains just mentioned, there

is almost always a permanent one in the back, hips, and loins, which continues until the alternate ones have ceased; indeed, the aching pain sometimes precedes the other, and announces the discharge to be at hand.

Another observation of Dewees, worthy of notice is, that the menstrual fluid is the product of a secretory process, for which he gives his reasons; thus accounting for the formation of the membranous production so often yielded in dysmenorrhea. But before he attempts an explanation of the formation of this substance, he directs the attention to a very remarkable circumstance in the character of the menstrual fluid, viz: its not possessing the property of coagulation. From this it appears that the fluid, or a part of it, has suffered some change by the action of the uterine vessels, and this change has been imposed upon the coagulating lymph by the process of secretion, consequently the menstrual fluid is very different from the common fluid circulating in the veins, and goes through a process of change, at or before the menstrual period.

I believe his ideas on this subject are very correct. The secretory process not being properly performed, the coagulating lymph will spread itself over the internal surface of the uterus, and there quickly assume, as is usual, when in contact with living parts, the appearance of a membrane, which being an extraneous substance, will sooner or later cause it to contract, which will be painful, and continue until expelled.

The reason why I have annexed this complaint to the commencement of the periodical evacuations, is, that caution may be used in due time to prevent so troublesome an affection taking place. I have seen much of this painful disease, and should any be so unfortunate as to be its victim, let them make free use of the female night tea, and syrup. Take the tea warm and freely whenever exercised with those pains. It may also be used during the interval between times of being unwell. Camphor gum dissolved in cinnamon tea, or from thirty to forty drops of peppermint in strong tea or rose water, are very useful remedies. One ounce of gum

guaiacum dissolved in pennyroyal tea and taken in table spoon full doses is also useful in this complaint.

DERANGED MENSTRUATION.

This complaint is brought on in many different ways, and induced by a variety of causes. It is also a very prevalent and dangerous affection, impairing the constitution, and very often terminating fatally. Persons of slender constitutions, feeble health, and a relaxed state of the solids, are most liable to this affection; but no female however healthy, is completely exempt, as it frequently takes place in the most robust and healthy subjects. This affection is apt to produce other diseases, as fevers, inflammations, dropsy, consumption, and other organic diseases. These, acting as second causes, prevent the operations of nature in establishing and performing her accustomed functional duties, and in this way protract the irregularity and derangement of the system. Taking cold in a critical and unfavorable time, has a very sudden effect on the system, often producing severe ague fits followed by high fever. In milder cases the patients linger for a few months, and slowly recover health again. During my practice I have witnessed many desperate and fatal cases, in consequence of taking cold, one of which I will here relate, as a caution to others in similar circumstances.

A young lady, about eighteen years of age, a Miss Curtiss, residing in Perry, was very desirous of attending a Camp Meeting, in the vicinity, but being unwell, and wishing to dress in white, she on the evening previous, the weather being warm, drew from the well a tub of water, stepped into it and remained about ten minutes; but being a healthy, robust girl, it made little or no impression. She arose very early and before the family were up, filled the tub, sat down in it, and remained about fifteen minutes. The sudden transition from a warm bed to a cold bath, produced the desired effect; the discharge stopped, a severe chill ensued,

followed by high fever, inflammation of the lungs, hard cough, and copious purulent and bloody expectoration. Medical aid was immediately had, but it was of little avail,—in eight weeks the grave closed over all that remained of her. I attended her in her sickness, and she often spoke with regret of her presumptuous act; but possessing a good constitution and perfect health, she apprehended no danger.

I could cite many cases similar, but I hope one will be sufficient to place young ladies on their guard, and warn them of the danger of interfering with nature in her operations. In these cases of sudden suppression I advise the patient to procure medical aid immediately, lest it should be confirmed, or terminate in some nervous or organic affection. The sooner relief is obtained, the better. If two or three periods pass over without any manifestation of the catamenial evacuations, much danger is to be apprehended. If palpitation comes on, with hurried breathing, on slight exercise, it shows that nature is endeavoring to perform her natural revolutions, and requires the assisting hand. If the disease advances the natural perspiration becomes obstructed, the circulation deranged, the uterine organs sympathise, producing a train of morbid, nervous, spasmodic and hysteric affections, and very frequently terminating in consumption.

For the treatment of these cases, I refer the reader to what is mentioned under *suppressed menstruation*.

I will here make a few remarks in regard to those cases where menstruation is delayed beyond the usual period. Much anxiety is usually evinced on the part of the friends of the female so circumstanced, and every complaint with which she may be attacked is sure to be attributed to this cause. They suppose from the age of the patient, that “delay is dangerous,” and are apt to introduce driving emmenagogues, which in such cases are always hurtful. It is often difficult to overcome their ambitious views, of the necessity of this evacuation at a certain period of female life. But it is important that we look well to the circumstances of the patient;

whether her constitution is slender or robust—whether, there is and disease about the system, producing the delay; or perhaps the patient has not yet come to the years of puberty, the uterine organs not being completely qualified to perform this important function.

Common sense would teach, that until the female organs are completely developed, the evacuation cannot take place. And where the young lady arrives at the age of sixteen or even twenty years, without these accomplishments, the use of driving emmenagogues ought to be strictly prohibited. Wait the appointed time, and nature may perform her duty, or give intimation that she requires assistance.

To show the bad consequences of exhibiting these active emmenagogue remedies at a certain age, I would here state, that I have frequently seen alarming hemorrhage produced, from the lungs and other parts. I do not here condemn this class of medicines, but I wish to have them used in their own place. In these deranged and debilitated subjects, the use of driving, forcing medicine, urging nature out of her course, ought to be prohibited. Carminatives, warming and recruiting articles, such as will invigorate the circulation, open the pores, and assist the absorbing, secreting, and excreting vessels to the respective offices, are all that is required. The female syrup and night tea, are very applicable, assisting nature in her embarrassments, and when the equilibrium of the circulation is restored, the current will flow in its proper course.

I wish to make here a few remarks on the impropriety of using those active remedies in sudden obstructions, and especially where disease prevails. I know a young lady about seventeen years of age, who was suddenly overtaken with a heavy shower of rain, while unwell, which suddenly arrested the evacuation, and at evening she was taken with chills, followed by fever, and was very sick. She was of a delicate constitution—medical aid was soon had—the case proved obstinate, and she passed over two or three

periods without obtaining relief. Physicians were often changed, and much anxiety was manifested by the friends. At length there came along one of those boasting, pretending doctors, who cure every thing "in two weeks"—said he would soon cure her; obtained consent, and commenced with driving emmenagogues, which in a few days produced, a severe hemorrhage from the lungs, attended with cough. They then dismissed their cure-all quack. In a few weeks the bleeding subsided, and by the help of restorative medicine she gained her health in about six months.

Another case of obstruction from sudden exposure, was similarly treated by this class of medicines, with like results, bleeding at the lungs, cough and fever, which terminated in consumption and death.

Alarming and violent hemorrhages are often thus produced, which would indicate that much caution ought to be taken in their use. There are many heads of families who think there is no other way to overcome these complaints, but by the use of this class of medicines; disease and debility do not enter into their estimate of difficulties. My own opinion is, that they are entirely insufficient to produce the desired end. I shall explain, so far as I can, the functions of menstruation, and of the pre-requisites of this evacuation, and attempt to produce on their minds the important conviction, that time, under proper circumstances, is all that is required, to effect the wished for change. Sometimes I have succeeded in bringing the friends to my views; at others I have not been so fortunate; yet, though not convinced, they dare not openly rebel, because of the responsibility. Others again, act on their own judgment, to the immediate risk, if not destruction of the poor patient. Some who were even determined in their own judgment, I have persuaded to take some warming, recruiting medicine, as female syrup, night tea, &c.

By dwelling so long on this subject, I fear I shall tire the patience of my readers, but as I have been called to visit so many

of these deplorable cases, caused by mismanagement, and have known so many females, who, from blooming health were soon consigned to the tomb, I wish to record my protest against such culpable destruction of human life, and warn the public to avoid those officious quacks, who traverse the country with a hand full of roots in their pockets, deceiving the people, and possessing no knowledge of the human system or its diseases.

IMMODERATE MENSTRUATION.

This complaint is much more rare than we should be led to believe, did we regard popular opinion, or even some of the writers practical systems of either medicine or midwifery. I have seen comparatively very few cases of superabundant mensis, for in my consideration of this subject, I shall confine myself to what should strictly be called an immoderate menstrual secretion.

This complaint has been very often confounded with uterine hemorrhage, because the latter almost always commences with a genuine menstrual evacuation, which continue for two or three days, and is then followed by the common circulating fluid of the veins and arteries; all of which, by careless observers, have been classed under an immoderate menstruation. But as it has been above stated on the subject of deranged menstruation, that the genuine menstrual fluid is not of the common circulation, that it goes through a process of change before it is evacuated. It is curiously calculated by the wise hand of Nature, as a forerunner and complete accomplishment to propagation. And this hemorrhage, as we term it, that was mentioned above, is not of the genuine kind; it often interferes with and winds up the period for that time, and it is for the physician, the close observer, to judge whether genuine or spurious. The latter designates itself sometimes by making its appearance without regularity, perhaps twice or three times within the periodical term. Doubtless it would be good reasoning to attribute this to debility, overdoing, &c.

This evacuating fluid, we shall argue, is the same as that at turn of life, or cessation, which sometimes follow them up for months and years. Again, as respects this discharge, *excess* must be regarded as a relative term, and it should only be considered *excessive* when it has an injurious effect upon the general health; for should it not produce debility or other disagreeable symptoms, we have no right to call this discharge immoderate or excessive, for it is only so compared with those who may evacuate less, but yet be in no better health. I must therefore repeat, that this discharge, in excess, is of very rare occurrence, and that so long as it does not impair the constitution, it should never be meddled with.

Should this complaint prove excessive in our acceptation of the term, namely, where health suffers from this cause, it should be treated, perhaps, as a hemorrhage, properly so called. I say perhaps, because I have seen but one case where the evacuation was so profuse as to debilitate the system or have any bad effect. But wherever the evacuation proves too severe, treat it as hemorrhage, and make free use of the harvest flower, yarrow, &c., which are good moderators in this complaint. If the system is much reduced by the evacuation, you must have recourse to syrups applicable for this complaint, such as spikenard, sarsaparilla, cumfrey, high cranberry and ozier bark, yarrow and harvest flower, of each one hand full, and half that quantity of snake root and solomon seal; put these into an iron kettle with six quarts of water; boil to two quarts, strain, sweeten it with loaf sugar, add spirits or wine sufficient to preserve it. Dose, half a wine glass three times a day, before eating.

The above seldom fails of curing the most obstinate cases of this complaint; should it, however, I would recommend female fern, buckhorn brake and yarrow, equal parts of each; boil it to one quart, strain and sweeten it with loaf sugar, add two spoons full of the raspings of deer's horn. Dose, half a wine glass three times a day. This rarely fails of effecting a cure.

SUPPRESSION OF THE MENSES.

However well established the menstrual evacuations may be, it is liable to be interrupted from a variety of causes; perhaps by taking a sudden cold at the commencement of a period would be the most common cause of this complaint, doubtless the most dangerous, and not unfrequently the most difficult to overcome. It is often the case, that it has a very sudden effect on the system; but if these cases are attended to immediately by putting the feet in warm water, and taking a dish of pennyroyal or night tea, so as to produce a profuse perspiration. In many instances I have known it to restore the evacuation in due time, and leave no very bad effect on the system.

Another of the remote causes is over heating the blood in an unfavorable time, which is liable to arrest the progress of the course and produce a serious breaking out of sores, biles, erysipelas, &c.

Another of the remote causes, is leucorrhœa. This complaint if not managed seasonably, will cause a suppression of the evacuation. Should this be the case, make use of balsam copava, boxwood blows and the tincture that is prescribed for that complaint. In making free use of these articles, I have no doubt the functions will be restored as before.

Sometimes this suppression will take place in consequence of the affection of the mind, but most frequently from the above causes; but if disease locates on any part of the system it is apt to introduce this complaint. Sometimes I have known tumours of various kinds situated on the uterine organs, or about the neighboring parts, to cause the complaint. Again, I have known kidney affections, inflammation on the bowels, cases of the prolapses, and many other causes too tedious to mention.

THE DECLINE OF MENSTRUATION.

This stage of female life is always looked forward to with much

dread, on the one hand, and on the other, with anticipations of joy. No doubt many hours of contemplation occupy the mind as they draw near the age of forty-five, which is one of the critical periods of their life. Whilst they have a view of the high hand of Wisdom in giving them a full discharge for ever from the customary evacuations and child bearing pains—whilst they have a view before them of this critical season of final cessation, much is depending on former life, as it respects an easy and comfortable cessation. Previous obstructed menstruation, hard labor, &c., never contribute to easing off the courses.

Sometimes this change is effected so suddenly that the individual scarcely notices any particular alteration with regard to the system, or any very bad feelings. At other times it is not inclined to wind up so soon, but will gradually diminish both in quantity and period, and in this way give warning that it is about to take its leave forever. Another time, perhaps, they will be overtaken with a sudden hemorrhage produced by laboring to excess, and confined to their bed.

This profuse evacuation greatly tends to debilitate, and perhaps before they recover their strength they will have another attack, and this followed up month after month, will soon reduce them very low, and by that means introduce a train of nervous, hysteric and spasmodic affections. This critical situation many fall into, and I have seen cases where the individual was so reduced, as not to bear strengthening medicine, neither tonics, wine, bitters, or exercise.

This is what I call a pretty nice case to manage; life is at stake. What is to be done now brother physician? Shall we try the lancet? I hardly think it advisable in this reduced state. My plan has been to take the medium course; to make use of the stiptic stimulents—those plants that possess properties, namely, harvest flower, yarrow, red cohush, red beth root, strawberry leaves, &c. I have found also, that they would bear the nervine, namely, valerian and castor in tincture, which are first rate articles; also, up,

land nerve root lady's slipper, low century, &c. With this course of treatment I have been very successful, and managed nearly all the obstinate cases I have been called to visit.

Once more on this subject. It is not only the hemorrhage that reduces the system, and makes it improper for the patient to take the tonic medicines which produce those nervous and spasmodic affections, but it is the symptoms of a non-appearance of the periodical evacuations; that the great Author of nature is about to dismiss the menstrual organs from their respective offices, and lock up the conveying ducts, whereby the menstrual fluid is conveyed to the inner surface of the uterus, and manifests itself every twenty-eight days; strictly speaking, in token of good health, unless interrupted by colds, diseases, impaired constitution, &c. Cold chills immediately followed by hot flashes, almost indicating suffocation, very often repeated, with sudden and profuse sweat, denotes the approach of this period.

Thus we can discover by the symptoms of cessation and dismissal of those organs, the confusion of the system, the velocity of the circulation, the impeded transit of the fluids; also the secreting and excreting vessels, costiveness, &c.

This change is astonishing to the wise physician, with all his knowledge of anatomy and chemistry. The minute particulars respecting this change in the female, is only known to the great Author of mankind.

PROLAPSES.

This complaint has been more prevalent of late years than formerly. Prolapses, is a complaint of the uterus or womb. When that organ settles lower down in the pelvis, or basin, than its natural place, it produces an uneasy feeling, a bearing down pain, frequently producing stranguary, or difficulty of making water.

Some of these cases are slight, the patient being able to be about for the most part of the time. Others are very serious, and it is not unfrequently the case, that the patient is confined to the bed for a length of time.

Many are the remote causes of this complaint. By long continuation of *lucorreœa*, or whites, it is not only debilitating to the system generally, but very much so to this organ. Again, this complaint is introduced by colds, severe coughs, hard labor, &c. The two worst cases that I ever witnessed was caused by mismanagement at the commencement.

These complaints should be managed with a great degree of caution, as fatigue and exhaustion sometimes makes them sensibly the worse. Sometimes lingering pains a week or so before confinement, is liable to lay the foundation for this complaint. I have been very successful in treating this disease, with the following remedies, viz: sweet agrimony, yarrow, white pond lily, day, or meadow lily, liferoot, &c. These articles may be formed into a syrup, or taken as a tea, by steeping them. If these plants are not all to be found, obtain as many of them as you can, for I have known two or three of them to effect a cure. In obstinate cases, many physicians make use of the pessery to some advantage; others, perhaps, would think it best to use the female syringe, which in some cases is very beneficial.

If this means is resorted to, I will mention some good plants applicable for that purpose, namely, cranesbill, rose willow, boxwood blows, green ozier, &c.; sometimes with the addition of alum.

Many of these cases with the best course of treatment is apt to linger. I have made use of a plaster for the back in this complaint, which has been worn with good success. Take equal parts of comfrey and buckhorn brake, pulverize both and mix up with the white of an egg to the consistence of a plaster. Spread it on thick cloth, apply it to the back and it will pay well for the trouble.

LEUCORRHŒA.

Leucorrhœa or whites, so called, is a troublesome, disagreeable complaint to females. If it contributed any benefit to future health, it might be endured with more patience; but this is not the case; on the contrary, it tends to relax, weaken and debilitate the system.

This discharge is from the uterus, and no doubt in consequence of the reduced state of that organ, together with the system generally. The slender female is more liable to this complaint than the robust; and the married and unmarried are alike subject to it.

There appears to be three stages to this complaint, and the mildest of the three is that which I mentioned in the commencement of the subject; it seldom does much harm to the patient, generally making its appearance a few days before or after the customary evacuation, continues a few days and subsides.

If this disease is not attended to in due time it will increase rapidly, and in a short time will occupy one half the time between the periods; in a few months it would greatly diminish the quantity of the averaged period, and in this way in process of time, it would completely run them out. This is what I call the second, or advanced stage of leucorrhœa.

Sometimes by the assistance of medical aid, I have known this complaint quite manageable for a number of months, and then to suddenly return with all its renewed symptoms.

The third stage of this disease is the most troublesome and dangerous. It assumes different appearances; sometimes yellowish, dark brown, greenish, &c. These symptoms are attended with much irritation and heat about the womb and its neighboring organs, and sometimes extends up to the stomach and lungs, causing great soreness of the uterine organs, vagina, breasts, &c. This is an uncomfortable and critical stage of the disease, and it is liable to terminate in serious consequences, consumption, &c.

The complaint is much easier managed in the first stages than in the latter, and it should therefore be attended to in season.

Perhaps this complaint has baffled the skill of the eminent physician, as much as any other that is as frequent, that ever came under their inspection, and I must say, that for the first fifteen years of my practice I attended this disease with very little success. As it was difficult to manage, and as I was frequently called to administer for it, I found it necessary to devote much time to studying its nature, and the most safe and sure remedy, which I am fain to believe I have obtained, and by a lengthy trial of which, I have been enabled to give general satisfaction.

The medicine which I make use of in this complaint is a compound of my own selection, and has proved almost infallible when used in season. It has never been made known to the public until now.

I would recommend to all the propriety of abstaining as much as possible from hard labor, lifting, &c.; or from taking powerful medicines to operate on the salival glands so as to produce a flow of mucus, for when this subsides, it is liable to induce a discharge from the vagina, which is called leucorrhœa or whites.

COMPOUND TINCTURE FOR LUCORRHŒA.

To one pint of fourth proof brandy add three ounces of balsam copava, and a table spoon full of blue flag root finely pulverized; a table spoon full of angelica root, two teaspoons full of cinnamon, and two teaspoons full of gum guaiacum, all to be pulverized and added with a pint of cold water, to the brandy. Shake well, and it is fit for use. Give the patient a teaspoon full three times a day, or as occasion may require.

The following articles are generally sufficient to arrest the complaint in its first stage: a hand full of boxwood blows steeped with a table spoon full of the raspings of deer's horn added to it and and taken freely.

Or, take of spikenard, comfrey, angelica, san. parilla, white bethroot, boxwood blows, buck horn brake and solomon's seal, a

small hand full each; put into an iron kettle with four quarts of water, boil to two, strain off, sweeten with loaf sugar, add a sufficient quantity of spirits or wine to preserve it. This makes an excellent syrup for the above complaint. Dose, two thirds of a wine glass three times a day, before eating.

BARRENNESS.

This is rather a dreary subject for me to write upon, however I shall, in as few words as possible, give my views on it.

I have visited a goodly number of females during my practice, who was said by physicians to be barren, but by the benefit of strengthening syrups, recuiting teas, &c., have proved themselves otherwise. I have known instances, where after a lapse of eight, twelve, fifteen, and one seventeen years, after marriage, they became mothers. I have known a very few married ladies who never bore children, and I will assign some reasons for its being so.

It is possible that there may be a deformity of the uterine organs which produces this effect, but it is most likely the deficiency is caused by disease,—it may be that severe and lengthy attacks of inflammation locating on the uterus or its neighboring parts, abdomen, kidneys, &c. have contracted those organs and disabled them from performing their respective offices; and this, also, would be liable to affect the ovarious and fallopean tubes, which it is reasonable to suppose would produce the above effect.

Again, by taking a sudden cold at the time the periodical turn is on, and which always affects those organs more or less; producing painful menstruation, which is a characteristic of barrenness.

This portion of the system is not only liable to the inflammatory complaints above mentioned, but also that of large tumours

forming on the ovarias, which are generally of long duration and injurious effect. The cancer also, frequently settles here, and produces fatal consequences to the patient.

GENERAL NERVOUS DEBILITY.

Much of my time for thirty years has been occupied in treating these complicated nervous complaints. Many of them appear to be hereditary, while others take place in consequence of disease. If I should attempt to enter into a full description of the rise and progress of these affections in different constitutions, it would occupy more space than I have to spare in this work. I shall, therefore, only notice the most serious affection and uniform symptoms of this complaint.

This disease most commonly has a place of location somewhere about the head, face, &c. Very often this affection terminates in a serious nervous headache, which is sometimes difficult to manage. It is not uncommon for it to settle on the ear and produce a severe nervous earache; at other times it will affect the nerve of the teeth in like manner, at others it produces a periodical headache for a number of months. These paroxysms are often attended with spasmodic and hysteria affections, great prostration of strength, trembling of the nerves, &c., which denotes an over action of the nervous system and a general lack of tone.

There are a numerous train of symptoms which accompany this complaint. Any thing that produces a sudden shock to the nervous system, such as fear, grief, anxiety, joy, sudden noise, &c. Another symptom which attends this complaint is, cold extremities, even in summer time, and palpitation of the heart.

All the above affections are plain indicating symptoms of a weak, relaxed, nervous system, which when thus reduced, is liable to be

attacked by a number of female weaknesses, that render it difficult to treat the nervous debility, and discourages and disheartens the patient.

My method of treating this affection is, to endeavor to regulate the system by reducing these cases of weakness, and giving it tone. I have made free use of the nervous and antispasmodic medicines, such as castor, valerian, lady's slipper, upland nerve root, partridge berry, skunk cabbage, garlic, lobelia, &c. These medicines to be administered as circumstances may require.

THE AUTHOR'S CLOSING REMARKS.

Before closing this work it is the author's wish to make a few observations to physicians. In the first place then, to the physicians of the Medical Faculty:—Brother physicians, I return you my sincere and hearty thanks for your friendly consultations with me at the bed-side of the sick, and your free communication of knowledge respecting difficult cases. From the commencement of my practice, which was in Otsego county, N. Y., I have had the friendship and confidence of this class of physicians. My study commenced in the first place, on this scientific principle, and I have ever thought much of that Society as being an excellent place for the student to obtain a systematic knowledge of anatomy, &c., and which has redounded much to the honor of that institution.

Well, Brother Apothecary Doctor, I have recommended your system of practice, and that in good faith; what more would you have of me?

I am myself a professed Botanic practitioner, and received my degree and diploma at Albany, and became a member of that Botanic Society. I was always of the opinion that the student should not be allowed to practice until he has a thorough knowledge of the system, and the diseases which it is liable to. Inattention to this has been a great embarrassment to botany. But since it is so, allow me to apologise for this defect, by considering the way in which it was first handed down, even by way of the uncivilized and uncultivated Indian, who, out of "necessity, the mother of invention," found virtues in the vegetable creation, congenial to the human system, and applied them to their diseased bodies.

I have no doubt there was a superhuman agency in this thing, operating on the minds of these ignorant beings, as an instinct in nature, how to use these plants to heal their disease; why not as reasonable, as that the young brutal creation, void of every thing but strength, should immediately go in search of their food. Again, we can discover this inherrent principle in the beasts of the field and forest selecting the plants that are good for food, while they pass by the poisonous and narcotic kind with a rejecting snuff. From this it would appear, that plants and herbs were not only intended for food for man and beast, but for medical purposes also.

Considering the way in which botany took its rise, the slow progress which it has made is not to be wondered at. But thanks to the enterprising spirit of the present generation, much has been done to organize and regulate this system of science. Many of the leading scientific men of the United States have used much of their influence to promote the botanic system. Many Societies have been established in different parts of the Union, together with beautiful flourishing botanic gardens in various parts, containing generic and specific descriptions of the indigenous plants of the linneus system, explained in "Eaton's Manual of Botany," and divided into twenty-two classes, and these classes are also divided into species, genus, and orders; and from this variety I have selected the best plants for medical purposes.

Brother practitioners, having had in my practice, frequent recourse to "shop medicines," I considered myself as possessing a double advantage in the management of diseases; permit me, therefore, to invite your attention to botany, as we cannot have too much knowledge of remedies in the healing art. You will find the vegetable course of treatment to far excel your most sanguine expectations. Indeed, it is truly astonishing to witness the salutary and happy effects which this course of treatment has on the human system.

Brother Botanic Physician, to you who have acquired a knowledge of the system of man, and also of the indigenous plants of

the Linneas System, I need not go into any explanation on this subject more than I have already done. With you, however, I may be permitted to rejoice at the spreading influence of our system; in the establishment of Lecturing Schools, on this branch of science, and in its having already crossed the great waters, and manifesting itself as far as human nature and diseases are known.

A few observations more, both to the physician of the Medical Faculty and the Botanic System, and I will close. How important it is, when we are called to visit the sick, to have a correct investigation of the disease. It is to be feared that much medicine is dealt out, many times, to no good purpose. We are called to examine many difficult cases, particularly among the debilitated female diseases, and it is necessary that we look well to the state of the constitution, endeavor to ascertain whether the complaint is hereditary or not, call up the symptoms from first to last, and in short, enter into all the minutiae of the science, that may not be accused of indifference to the trust reposed in us.

My friends and patrons, I cannot close these remarks without expressing my sense of the obligations which I feel myself under, for the many proofs of friendship and esteem which you have shown me through a succession of years. In the course of my practice I have formed a very extensive acquaintacne, many of which, from frequent intercourse, have ripened into the warmest friendship; to these, surely, as well as to all my personal friends, I may be allowed the indulgence of expressing my heart felt thanks for the patronage with which they have favored me.

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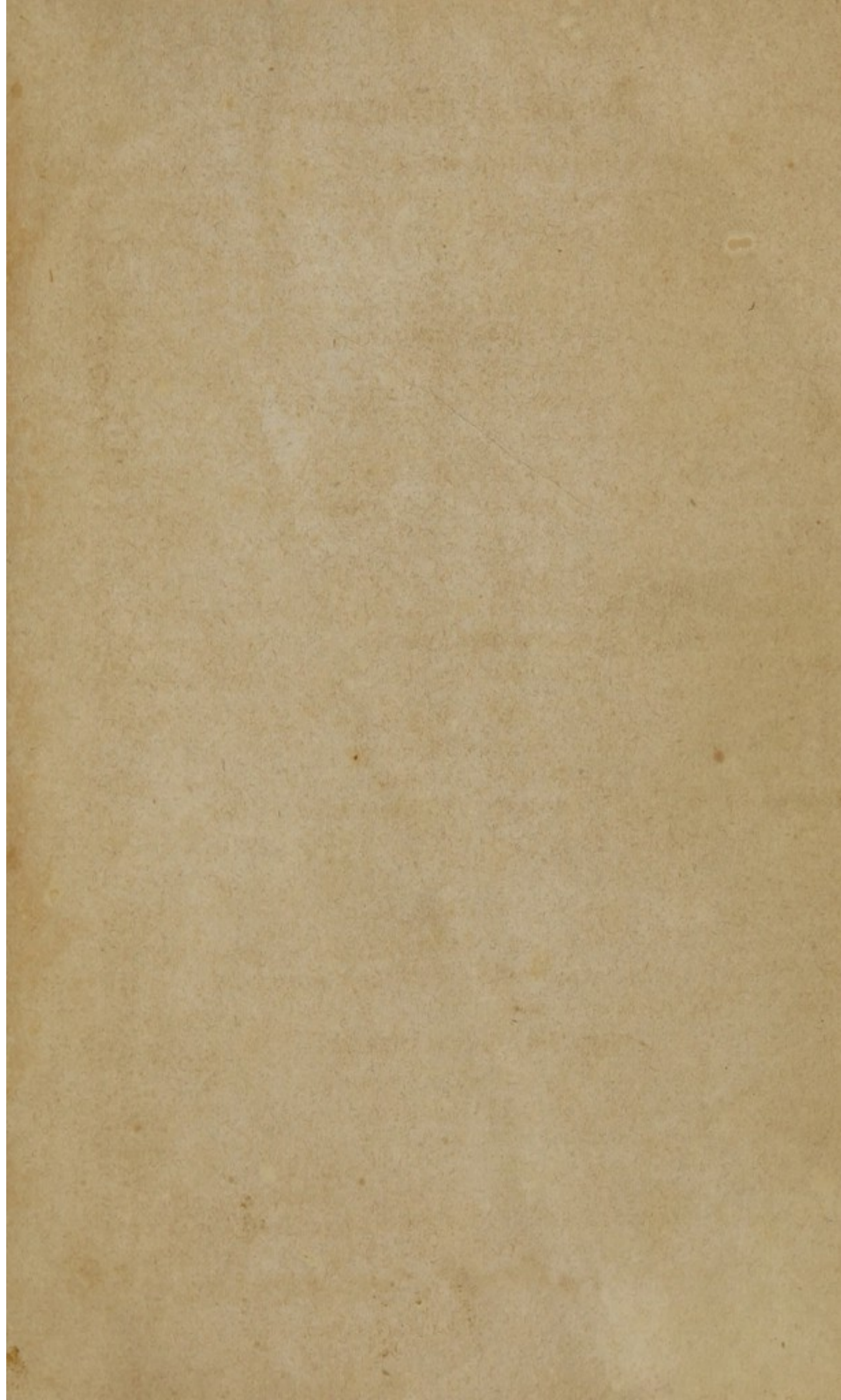


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