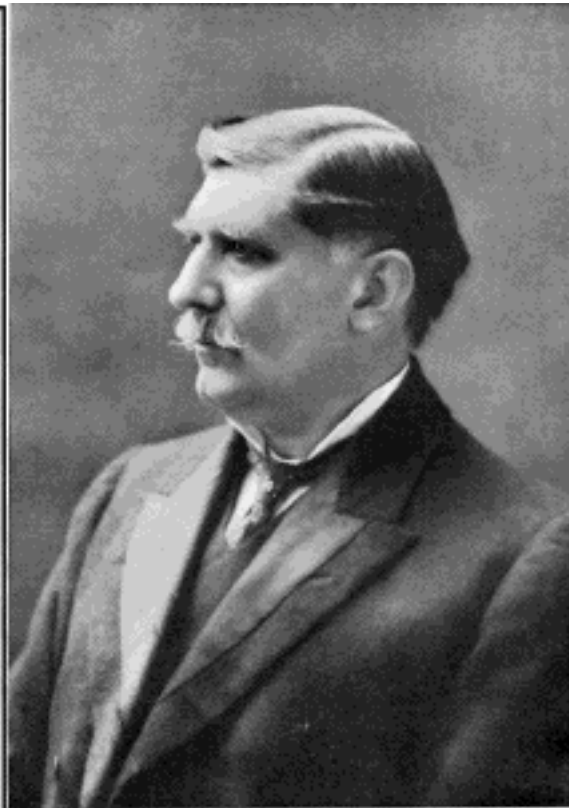


*Yours respectfully*  
*Wm Fox M.D.*



*Yours respectfully*  
*Alfred Fox.*



*Yours respectfully*  
*Russell Fox*

THE WORKING-MAN'S  
MODEL  
**Family Botanic Guide**  
OR,  
EVERY MAN HIS OWN DOCTOR;  
BEING AN EXPOSITION OF  
**THE BOTANIC SYSTEM,**

GIVING A CLEAR AND EXPLICIT EXPLANATION OF THE  
BOTANIC PRACTICE, THE CAUSE, CURE, AND  
PREVENTION OF DISEASE;

EMBELLISHED WITH ENGRAVINGS  
OF THE HUMAN BODY AND HERBS USED IN THE BOTANIC PRACTICE.

BY  
**WILLIAM FOX, M.D.**

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ENLARGED BY  
**A. R. FOX, F.L.S., M.P.S.** (SON OF THE AUTHOR).

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TWENTY-THIRD EDITION.  
REVISED AND CORRECTED BY A. RUSSELL FOX,  
MEDICAL BOTANIST AND EYESIGHT SPECIALIST.

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## **PREFACE.**

IN presenting this Work to the public, the author does so with the greatest confidence, feeling assured that his readers will appreciate his endeavours to alleviate the sum of human misery. Many works have been written on medical science by men of scholastic education; but these works are either too expensive, or written in language which the bulk of the people do not understand, and the remedies are of such a nature that it is like putting a sword into the hand of a child. In this Work technicalities have been avoided as far as practicable, and it is written in so plain a manner that “all who run may read.”

Not only is this a “GUIDE” of information for the curing of all the curable diseases incidental to man, but it lays down the plan of prevention, which is far better than cure. Nothing is recommended on theory, but all from practical experience. The use of poisons is avoided whether as remedial agents or as stimulants. The use of the lancet is held to be quite unnecessary; and the use of that formidable enemy—the sheet-anchor, the Goliath of medicine—that all-potent remedial agent of the medical profession, Mercury, is altogether repudiated by the author. The means recommended are sanitary—assisting nature to overcome disease by giving those remedies which act in harmony with the eternal laws of nature; these remedies are from the vegetable world, and, when taken properly, will arouse the dormant energies of the body to fulfil their proper functions, and make life's wheel run smoothly on:

“That men may live in health and joy  
And all their varied powers employ,  
And die by weight of years,”

is the prayer of

**THE AUTHOR.**

## **PREFACE TO THE 23<sup>rd</sup> EDITION.**

THE former editions of our "GUIDE" have done good service, and the rapid sale of over 200,000 copies has induced us to revise, correct, and improve. In this edition, considerable alterations have been made. The Introduction to the former editions has been incorporated in the body of the work, with the addition of upwards of sixty new woodcuts of the most useful and important herbs used in the Botanic practice of Medicine. In order to keep pace with the ever-increasing activity of research in this branch of the science of Medical Botany, the whole of the work has undergone a careful revision; many clerical errors, and errors in point of detail, have been corrected. The price is not an obstacle to any person who is desirous of possessing it. The additions and improvements introduced—which are the result of seventy-five years' successful practice—will, we trust, make the work a safe and intelligible guide to the Medical Botanic Practice, and thus become more extensively used by all classes of the community; and with the addition of the woodcuts introduced, will add additional zest, and enhance the value of the book.

A. RUSSELL FOX.

Sheffield, June, 1924.

## INTRODUCTION.

“The poor Indian, whose untutored mind  
Sees God in clouds, and hears him in the wind.”

IN publishing our little “GUIDE,” we do not profess to bring out any new theory: our object is to give our quota in strengthening the bulwarks of MEDICAL BOTANY. Our little messenger is not only to bear the title of “THE WORKING MAN'S MODEL FAMILY BOTANIC GUIDE,” but we feel confident it will be so in practice. The price is such that every man will be enabled to become his own family physician. That great, good, and noble-minded man, Dr. BENJAMIN RUSH, after bewailing the defects and disasters of medical science, consoled himself with the animating prospect that the day would arrive when medical knowledge should have attained that apex of perfection that it would be able to remove all diseases of man, and leave not for life a single outlet, a single door of retreat, but old age; for such is our confidence in the benevolence of the Deity that He has placed on earth remedies for all the maladies of man; and how distant that prospect may be it is impossible to state; we feel certain that we have taken a step in the right direction to hasten on that desideratum. So conflicting are the opinions and practices of the medical profession, so arrayed are they against each other, that one has compared their practice to an unroofed temple, cracked at the sides, and rotten at the foundation.

We are indebted for the origin of medical science to Egypt, that universal school of the ancient world. There knowledge of medical science was famous, even in the days of Moses, and her physicians are celebrated in his history. The ailments and ablutions recorded in his books, so congenial to the health of an eastern clime, enforced on the observation of the Israelites, have been ascribed to his knowledge of the Egyptian science of medicine by those who have denied to him the high prerogative of having acted under the inspiration of the Almighty.

The discovery of medicine first came from the Egyptians, and is generally ascribed to the god Thoth or Hermes, who published six books on physic, the first of which was on Medicine and Surgery. The name of Æsculapius (the meaning of which in Greek is “Merciful Healer”) was given him on account of his great skill in healing diseases. And this

name he richly deserved. "The healing art was first brought into use," says the Rev. J. Wesley, "in a very natural and simple manner in the earliest age of the world. Mankind, by various experiments or accidents, discovered that certain plants, roots, and barks possessed medicinal properties. These were found sufficient to remove their diseases. The European as well as the American, said to his neighbour: 'Are you sick? Drink the juice of this herb and your sickness will be at an end.' Hence it was, perhaps, that the ancients, not only in Egypt, Greece and Rome, but even in barbarous nations, usually assign to physic a divine origin." It will be impossible to go through the whole history of medicine in the space allotted to us; but we shall give the reader a bird's eye view of its progress from the early ages down to the present time.

Kheiron or Charon, the learned sage, brought medicine from Egypt to Greece. Æsculapius, the scholar of Charon, flourished before the Trojan war. The secrets of his art he communicated to his children, and they were retained in his family until they burst forth with peculiar splendour, and shone out to the possession of the world, in the writings and characters of the great Hippocrates, who was instructed at the temple school of Kos, an island in the Myrtoan Sea. He is called "The father of Medicine." It was he who caused tablets to be hung in the temples describing the names of diseases and the mode of their cure. His noble mind soon rectified the defects in the system of his ancestors, and he found out and applied the remedy equal to its vast importance. As the grand sum of all medical skill consists in reason and experience, and these formed the accomplished and successful practitioner, he silently effected a revolution which changed the face of medicine, and caused it to rank with the sublimest part of human science. From what is related of him in history, there was but one sentiment in his soul—the disposition to do good.

Aulus Cornelius Celsus was the next; he was born in Rome. He followed in the same path as Hippocrates, and wrote eight books on medical science. He was held in estimation by the emperors of Rome, and died much beloved.

Claudius Galen was born at Pergamos. He was a most diligent and laborious student; he closely followed his great leader, Hippocrates, but, like all other great men, he had to pass through the fire of persecution: his skill aroused the jealousy of the Roman physicians, which made his situation unpleasant; and he left Rome and went back to Pergamos. He was afterwards sent for by the Emperor to see his two sons, who were

smitten with the plague, and he cured them. After this all hostilities against him ceased. He died at a good old age, in the year A.D. 201. His fame was great: he wrote many volumes on philosophy and medicine.

A pleasing melancholy pervades the soul as we trace the memorials of these devoted and magnanimous men, benefactors of the human race. They seem to redeem the very character of man from all the vile aspersions that have been cast upon it; they shine as splendid beacons on the solitude of time, to point out to the traveller the road to glory and the haven of immortality and peace.

After Celsus and Galen medical science was for some time stationary. In the agitation and decline of the Roman empire learning was arrested in its progress; and when it fell, the arts and sciences perished in the shock. The few fragments that remained were concealed with the priests, monks, and secular clergy; but a dreary and dark desolation spread over the universe of mind. The knowledge of a few simples answered all the wants of the people. The dressing of wounds was committed to the ladies; the cure of fractures and broken bones the knights took upon themselves: all was simple and soon despatched. In those awful scenes of broil and battle, when nothing was to be heard or seen but the alarm of war, and garments rolled in blood, there was no time to die of disease! No! it was on the bloody field of martial strife that Death reaped the harvest of his millions. All the finer feelings and causes of disease were absorbed and swallowed up in the vortex of war.

Thus, through the long and dreary night of a thousand years, a morbid melancholy and mortal death sat brooding like an incubus on the nations of Europe; but as Dr. Robinson has beautifully said— “Man cannot be enslaved for ever.” At length Superstition broke her chains; Science aroused her giant form, and shook off the slumber of ages. The spirit of man rebounded from the crash of its long depression, and took its place on the sublime and awful elevation of freedom and range of thought. Religious liberty, civil liberty, the diffusion of science, the equity of laws, and the amelioration of the condition of the miserable, all proclaim her bright and rapid progress to the uncreated splendour of eternal day.

After the revival of learning, the works of the ancients were held in great repute. Sennertus and Reverius collected with the greatest diligence the opinions and writings of the ancients, especially of Hippocrates, Celsus, and Galen.

In the early part of the sixteenth century, the far-famed Paracelsus advanced his chemical system to the world. It was he who first introduced quicksilver or mercury as a medicine. He burnt the works of the great Galen, and at the same time he stated that he possessed more knowledge in his little finger than Galen had in his whole body. He professed to have found out the elixir of life, that would prolong mortal existence to any period, but he died at the age of forty-eight.

Such, then, is the man to whom we are indebted for the introduction of the mineral practice, which has continued up to the present day, entailing misery on the human race to an amount beyond all computation.

In the middle of the seventeenth century, the circulation of the blood was discovered by Dr. Harvey; and this knowledge, together with that of the discovery of the receptacle of the chyle and of the thoracic duct, caused a great revolution to take place in the system of natural philosophy. Lord Bacon proposed to the world his new mode of reasoning by an induction of facts. This new mode of philosophizing soon made a visible change in the science of medicine. A disposition to observe facts and make experiments began to prevail in the schools and to fix the attention of keen and accurate inquirers.

The great Sydenham, the first of the moderns, was the father of medical science in its present mode of modern fashion. His pathology was simple and comprehensive; the oppressed and exhausted state of the system comprised his rationale of disease and mode of cure. The simplicity of its views seems to have laid the foundation of the theories of Rush and Brown.

“To add to the science of medicine,” said Sydenham, “two facts must be kept in view:—1st, To give a full and complete description or history of the disease; and 2nd, To discover a fixed and perfect remedy or mode of cure.” And to those great objects did Dr. Sydenham dedicate the labours of his long and useful life, preferring their great importance to fruitless and unprofitable speculations on the principles of life. The new system introduced by Stahl, Hoffman, and Boerhoeve was intended to supply a remedy; but, alas, it was equally deficient as it was new, and instead of removing the disorder it only operated to its augmentation, and inflamed the wound it was designed to heal.



Dr. Brown, who studied under Cullen, states that he had to forget all he had learned in order to start his medical life again. Upon facts and observations he constructed his theory. Why was it that when he lived well he was exempt from the gout? and when dieting himself he was attacked in a manner both formidable and unrelenting? The solution of these questions opened his eyes, and led him forward to an inquiry more comprehensive.

What was the effects of food and fluids, the aliments with which we support life? They produce strength.

By thus reasoning he perceived that his disease was occasioned by a deficiency of blood, and not by redundancy of that fluid; that debility was the cause of his disorder, and the remedy must be sought in a sustaining and stimulating diet.

Dr. Rush agrees with Dr. Brown that life is a forced state and the effect of stimuli. He divides these, as Brown does, into external and internal; but for the matter of the principle of life itself he adds sensibility to Brown's excitability. He will not admit with Brown that debility is a disease, but only a predisposing cause of disease.

Disease consists in a morbid excitement, and the cure of disease consists in restoring the equal diffusion of blood over the whole body. "Air," says Dr. Rush, "by exciting respiration, gave the first impulse to life." When man was formed. God breathed into him the breath of life, inflating his lungs, and thus exciting in him the whole phenomena of animal, intellectual, and spiritual life. And hence life is the effect of stimuli acting on the organized body.

While these opinions are producing convulsions in the whole medical school. Dr. Thomson, the founder of the American botanic practice, a man who was educated in the school of adversity, but, led by the unerring hand of Providence, brought out of chaos the science of medicine, and placed it on a simple but firm foundation, taking the laws of nature for his guide, for his principle of life, and the field of nature for its cure. "All bodies," says Thomson, "are composed of four elements—earth, air, fire and water. Earth and water constitute the solids, air and fire the fluids of the body. The healthy state consists in the proper balance and distribution of these four elements, and disease in their disarrangement."

All disease is caused by obstruction: the mode of cure is to remove it by diffusing heat over the system, for heat is life, the absence of heat death. All disease is the effect of one general cause, and therefore requires a general remedy. Whatever supports the internal heat and directs the determining powers to the surface, will expel the disease and save the patient.

This is our theory of the cause of disease, and its soundness has been verified by long practice, of the successful results of which we leave the people to judge. We believe the botanic system is yet destined to revolutionize the whole medical world, and to this end we give our labour. The botanic system will yet gain the ascendancy, and shine with greater brilliancy than it did in the days of Hippocrates or Galen. It will come out of the fire of persecution like "gold seven times purified."

These opinions coincide with those of Dr. COFFIN, the founder of the botanic system in England. The name of Dr. Coffin will long be cherished by the people of this country for his extensive labours in the cause of medical botany. He has caused many a tear to be dried up, and many a sorrowing heart to leap for joy.

We shall now proceed to give a short description of Dr. Thomson's theory and also a brief sketch of his life, which we think will not be uninteresting to our readers, and not without profit to them.

"Let us, then, be up and doing,  
With a heart for any fate;  
Still achieving, still pursuing,  
Learn to labour and to wait."

### **DR. THOMSON'S THEORY.**

Clearly to understand the laws of life and motion, the radical principles of animalisation is of infinite moment. Without some adequate views and conception of these, the nature of disease cannot be correctly understood, neither can we have knowledge to prescribe a rational, safe, sure, and certain remedy for the removal of disease when found in the human system.

Through many long and tedious seasons, he remarks, these subjects revolved in my mind before I could form what I consider a correct opinion. I witnessed many distresses in the family of man; my heart was

pierced with many sorrows, until my mind was established in those simple truths that have laid the foundation of my practice that has been so successful in subsequent years.

Persecution raged against me—all the presses in the country were closed against me—priests, doctors, lawyers, and legislators were combined against me—*ex post facto* laws were put in operation—prosecutions commenced—false witnesses arose—bigotry, prejudice and superstition, like Salem witchcraft, waved their magic wand, but all in vain—truth has prevailed. The darkness of the ancient philosophers is passing away, and these simple truths, which are the genuine *philosophy of life*, and the fruits of the labours of my life, begin to prosper beyond my former expectations.

Among those physicians called regular I have found many who appeared to be as ignorant of the laws of life and motion and how the functional powers of life are kept in operation, as though they themselves had never possessed an animal body, nor yet correctly understood a philosophical reason for the cause of life and motion in all that lives and moves.

Fire and air are properly the fluids that pervade and fill and actuate the living animal; their operation is life—the elementary principles of life which keep the animal machine in motion. Where heat is extinct the animal is dead. Heat and air combined are so modified in the living moving animal as to constitute a living state, and justify the assertion that cold and inaction is a state of death, or rather death itself, and a specific degree of heat and motion so combined and modified is the essential principle of life in the living animal—yea, rather life itself.

Waiving all the minutiae of chemical divisions and sub-divisions in simplifying elementary combinations that constitute bodies *dead* or *living*, the four great original elements of air, earth, fire, and water contain and comprise all the more simple elements of which they may be respectively composed.

A specific association, due proportion, mixture, or combination of these four great elements, in an organic animal body, constitutes the living state, and prolongs life; an improper disproportion, combination, and modification destroys life.

To illustrate the nature and cause of respiration or breathing of the

living animal, we will refer to the operation of fire and water. Put a pan of cold water on the fire, in a few minutes examine it by immersing your hand therein, you will perceive the first warmth of the water is on the top or upper surface; the coldest water is at the bottom of the pan, nearest to the fire. The reason is, as soon as it becomes warm it becomes rarefied and lighter, and rises; just in proportion as it grows warm it becomes active, until it is all in a fluttering, fluctuating, boiling state, and wastes by steam, sweat, or breath, perspiring or respiring, until it will evaporate. This shows that heat rarefies and lightens water.

The subject may further be illustrated by reference to the effect of heat on the atmospheric air. You build your house in the open atmosphere—the house is filled with air within—the air within is a counter balance or resistance to the weight or power of the surrounding air without; the balance within and without is equal in coldness and inaction, resembling a state of death. To produce action, motion, or breath, build a fire in the house, and, the doors and windows being closed in the usual manner, in a few minutes every door and window begins to hum and sound the march of air. The air within becomes rarefied and lighter than the air without; the air without presses in at every crevice to restore or form an equilibrium with the air within; the hotter and stronger the fire, the stronger will be the current of breath or force of breathing air—as the heat diminishes, the noise and breathing current of air will decline in force of operation, and the noise and motion will cease when the fire becomes extinct, and the equilibrium is restored.

The effects of heat rarefying and lightening the water and air, and occasioning a breathing motion, resemble and illustrate in some degree the breathing, sweating, and functional motion of the animal machine. The constituent or component parts of men's bodies give organic shape and size, and form, and functional structure of organisation to the machine. The peculiar mixture, composition, proportion, or modification of these elements constitute its aptitude or adaptation to the animalizing influence of fire, lightening air and exciting breathing motion; connected with this original or primary action, all evincing that heat is an essential principle of life, and that cold, or an extinction of heat, is death.

A still-born child was resuscitated by placing the placenta, or after-birth, on live embers, still connected with the child by the umbilical cord or navel string, and as the after-birth began to heat and had gained warmth sufficient to begin to fill and dilate the navel cord with warmth

and moisture, it was stripped towards the body of the child, and through this medium a sufficient degree of warmth was conveyed to the body, the lungs expanded and life was restored. This may serve in some measure to illustrate and confirm our ideas of life and motion.

In everything that breathes the breathing is from the same general cause. The principle of life and motion is radically the same in all animated bodies. Without heat there is no breathing; but when heat is continually evolved in a confined room excepting at one avenue, as in the lungs, there must be breathing, or, what is the same, an inhaling of cold air, and an exhaling of a gaseous vapour from them.

Every animated body has its proportion of caloric or heating principle suited to its size, adapted to its nature, proportioned to that degree of living power requisite to keep up the operation of all the animal functions essential to the perpetuating of the peculiar specific form and mode of being in such an animal.

The heat of animal fire, or that degree and condition of it that constitutes the living state of animalized existence is maintained and continued by a suitable supply of appropriate fuel, or materials that are naturally adapted to that end or use; these are food and medicines. These harmonize with each other in their salutary effect or natural influence on animal bodies.

Food and medicine originate from the same munificent Hand, grow in the same field, and are adapted to the same end or design, viz., to supply fuel to the fire of life to sustain and nourish the animal machine, by warming, dilating, filling the vascular system, maintaining the action and supplying the wasting powers of the living state. Medicine removes disease, not only by removing obstructions, but by restoring and repairing the waste and decay of nature.

On these supplies our life depends, viz., the continuance of that state of warmth and action which constitutes the living state. When food is masticated and taken into the stomach, the process of digestion commences. By the warmth and action of the organs of digestion and the gastric juices, the food is decomposed or consumed like fuel consuming in a fire. The breath and respirable vapour are the smoke arising from this fire. The foecal matter are as the ashes or earthly substance remaining after the consumption of fuel.

To understand the cause and nature of life and death, or of warmth and motion, of cold and inaction, it is necessary to advert to general principles and analogies of nature. There is one general cause of the natural sensations of hunger, and one general method to relieve that want and satisfy and relieve that sensation.

In perfect accordance with this, there is but one immediate cause of disease. However varied the remote cause may be, the immediate cause of the sensation of disease is uniformly and invariably the same, differing only in degree and incidental diversity of symptoms; occasioned by local injuries, organic lesion, or functional derangement, dependent on these, or whatever might predispose to a diseased state.

As there is one general cause of the sensation of hunger, to be relieved by one general method, viz., by food, and this food may consist of sundry articles adapted to the same general end, so there is one general or immediate cause of the sensation of disease, to be relieved or removed upon one general principle, though a variety of articles may be used. But as a few simple articles of diet are better suited to maintain a healthy state of body than an epicurean variety, so disease is more readily and certainly removed by a few simple remedies that are best adapted to the human constitution.

That medicine that will most readily and safely open obstructions, promote perspiration, and restore a salutary operation of the digestive powers, by exciting and maintaining a due degree of heat and action through the system, is best suited to every state or form of disease and must be universally applicable to a diseased state of the human system.

Thus I have given as a summary view of the outlines of my conceptions of the construction and elementary composition and constitution of the human body in a living state, whether healthy or diseased. The power or faculty of breathing is a capacity or condition to be acted on with effect, rather than any inherent power or faculty of acting. Heat, *rarefying and lightening air and water*, excites perspiration and respiration; the vapour of breathing and sweat are produced and thrown off.

By heating water in the stomach we lighten the air in and expand the lungs—the weight of the cool, condensed, and weightier external air presses out the light and rarefied air; these circumstances of the living state of the animal body occasion the alternate contractions and

dilations of the lungs that constitute the action of breathing indispensable to the living state.

By heating water in the stomach and air in the lungs we put the steam engine into operation. The operation of the animal machine strongly resembles the mechanical operations of the steam engine. Some of the fundamental principles of action are the same. In inspiration, cool, fresh air is inhaled; in respiration, the rarefied lightened air and vapour are exhaled out of or from the *steam pipe*. By this action, by which steam is expanded, the whole machinery of the living animal is kept in operation—the great fountain pump of the heart is kept in play and pumps the blood through the lungs and arteries to the extremities, deep in the flesh and near the bone, which is returned in the veins. The warmth and action, commencing at the fountain, are propagated through the system to the remotest extremities.

So long as the fire keeps up that state and degree of warmth essential to the living state of the animal body— or, to speak figuratively, so long as the fire is kept good in the boiler to keep the engine at work—so long the pump will go.

Our regular meals supply regular fuel to keep up animal heat, as the regular teasing and tending a fire with coal will keep it burning. Drink supplies the boiler with water, which creates the steam : condensed water is discharged through its natural channel.

On these principles of the philosophy of life we may expect 'o. regular well-formed machine to continue its operation until worn out or broken by the indiscretion and bad management of the engineers.

If the machine be entrusted to the management of an ignorant, incompetent engineer, who has no correct conception of the principles of life and motion, and is negligent in the discharge of his duty, your *steamboat*, if I may so speak, will begin to fail in its speed for lack of fuel to keep up the fire and water to supply the steam; or the engineer may conclude that cholera affects the machine and will cast ice into the boiler to keep it down, or tap the boiler as a preventive or remedy, and draw off the hot water—his boat begins to sink rapidly down stream. This is often done by the lancet.

If you would keep your steamboat's *steam breath* motions going on, keep up a supply of water in the boiler, and a supply of fuel to keep it

sufficiently warm; raise the steam, and the action of life will proceed regularly.

Concerning the doctrine of *vital principle* diffused through the whole organic structure of the animal machine, we would just observe that this subject has employed the minds and pens of many talented writers, who have cast but little valuable light upon the intricate theme.

When we are asked what constitutes a living fibre, we might as well ask what constitutes any other property of living matter. What constitutes that in which the life of a leaf or stem of a living tree consists? What can we reason but from what we know? Every living thing has something peculiar to the nature of life with which it is endowed in the living state, whether vegetable or animal; but a living animal has heat and motion. Without this animal heat and motion, the animal dies. Without a due proportion of heat, inward and outward, or outward and inward, there is no animal motion— no animal life.

Warmth and action do not constitute animal life in unorganised matter. They do not constitute animal life without an organised animal structure, to which heat gives the impulse applied to and connected with the animal structure. Caloric, or the principle of heat rarefying and lightening air, excites action; which circumstance of being constitutes animalization or the living state.

Fire and steam are necessary to propel a steam-boat;

but, notwithstanding the capacity or adaptation of the mechanical structure to be propelled, the boat will not go until the fire is kindled and steam raised to put it in motion.

The animal body is the machine so constructed, so modified, endowed with such capacity of life—call it vital principle, or what you please—that heat rarefying and lightening air, stimulating and expanding the lungs, puts the machinery in motion, and pumps the tide of life through all its crimson channels. This combination of circumstances constitutes the living state of the living animal; for where these circumstances do not exist, there is no animal life—the animal form is dead.

Suppose a man, in all the vigour of life, falls into the water and sinks, in a few minutes he is taken out apparently dead; the warmth and motions



of life, if not extinct, are at a low ebb. As soon as you can kindle up the decayed spark, and restore inward heat by medicine, friction, or any appropriate means, if the capacity for the action of life is not utterly extinct, an energy is given to the system, the air in his lungs, becoming warm, rarefies and expands, and heaves them into action—the machinery begins to move—the wheels of life no longer wallow in back water—the proper state and proportion of heat, inward and outward, is recovered—nature rises to its wonted strength and vigour.

All that is requisite in such a case is to supply fuel to raise the latent spark of the fire of life. The same holds good in a collapsed state of disease, whether it appears in a cholera form or whatever shape it may wear. The vascular system loses its wonted tone—the whole system is sinking—the power of life is unable to distend and expand the lungs—the heart and arteries no longer propel their contents by maintaining the requisite action. The spark of life is becoming extinct—the water that should breathe, exhale, and perspire away, becomes condensed, and extinguishes the sparks of living fire. The coolness and weight of the external air are too much for the small degree of heat remaining in the lungs, heart, &c.; the power of life, or rather the power or capacity to live, to keep the powers of animal life in their warm and moving or living state, becomes measurably extinct. For lack of heat the air in the lungs is not rarefied and lightened so as to give the necessary action, &c.

In this case shield the sufferer from surrounding cold air by wrapping him in a blanket, placing him warm in bed, and gradually raising a steam around him. Administer gradually, frequently, and perseveringly the warming medicines, and give injections—which all acquainted with my system will readily understand— proceed until you can gain a sufficient degree of inward heat to expand freely, to rouse the sinking, fainting, I might say, drowning patient, to a proper degree of warmth and action. When you have pursued a proper course, he will sweat freely; and when he craves for food, give him enough to keep up the steam. The pump of life will begin to work freely, and the patient to rejoice in the warmth and action arising from the resuscitated powers of departing life.

Much has been said about drawing the breath; but the fact is you cannot keep the breath air out so long as there is a due degree or natural proportion of heat in the lungs; neither can you prevent the motion of the pump-like action of your heart. But when the heart

decays, or a state of living warmth declines, the lungs begin to labour like a wheel wading slowly in back water. The pump has not power to roll the blood along the arterial canals—the pulse falters—the extremities grow cold—the blood that maintained the warmth by its active circulation recedes from the extremities. There is not heat enough at the fountain or boiler to keep up the steam and continue the living action; blood settles in the veins, not being supplied and propelled by the pulsation in the arteries—the fire becomes extinct—the pump no longer plays at the fountain; the man dies \* \* \* for want of breath—for want of capacity to breathe—or because the inward heat is reduced below the living point. The proper and natural proportion and modification of the inward and outward heat, as they exist in the living animal, become deranged, destroyed, and life is extinct. The disease is as contagious as though the man had been \* \* \* hanged or drowned.

The regular faculty are requested to inquire whether the depleting antiphlogistic practice that has been popular and notoriously mortal in its results has not been the cause of producing much disease, and many of the most fatal results that have attended on what has been called scarlet fever, yellow fever, cold plague, and now cholera.

In conclusion I would remark that the cause of vegetable and animal life are the same, viz., one common principle produces similar effects; nutritive life in animals and vegetables bear a striking resemblance to each other—vegetables, like animals, are constituted or formed of the four great cardinal elements. All vegetable life is under the control, influence, and operation of similar principles as that of an animal. Without earth, water, fire, and air, nothing like vegetation could exist. The winter season is a state of death to vegetation; just in proportion to the loss of heat is that peculiar modification of elementary combination thereof that constitutes the living state of a vegetable. This is a degree of death, or a degree of the suspension of animal life. In many instances the suspension is total.

In cold countries, after the winter has passed away, and spring returns, suspended vegetation and suspended animation are again restored; the torpid reptile again inhales the breath of life. Heat in this case is not only an agent of restoration to life and vigour, but is so adapted to the condition of the being on which its influence is exerted, as to constitute a living principle. So, on the other hand, cold is not only an approximation to death, but that degree of cold which is inconsistent with and contrary to the living state, is death itself.

Heat does not act alone and independent of its fraternal elements, but in harmony and accordance with the whole family; but without their elder brother there is no life in the material universe. The elements would rest in everlasting silence and inactivity if destitute of this generative principle of life and motion.

Abstract the element of fire from the other elements, stillness and silence would be universal—the life of all that breathes and moves would be swallowed up in the stillness of eternal death. Earth and sea would be and remain a solid, unmoving, and immovable mass : the fluid air would be consolidated to the flinty hardness of the diamond on its native rock; creation would be a blank; and—here I pause !

### **A BRIEF SKETCH OF THE LIFE OF DR. SAMUEL THOMSON.**

After things, events are most interesting to our minds; there is nothing on earth so great as man, and no events more interesting than the histories of great men.

The standard of true greatness is the joint amount of good done and difficulty overcome.

While governed by this rule, and looking over the histories of physicians, whether of ancient or modern times, we find none that claim our attention before Samuel Thomson.

It seems that his father was one of those hardy and enterprising pioneers who, infatuated with the love of improving the borders of the wilderness, have so much distinguished Americans.

He removed from Massachusetts with his young family into the newest settlements of New Hampshire, and there, about one year afterwards, in the town of Albany, County of Cheshire, and State of New Hampshire, on the 9th of February, 1769, Samuel Thomson was born. It would seem, according to the common view, he had to contend against almost every possible disadvantage to a life of science. His parents poor—in the wilderness three miles from the nearest settlement—called at four to the occupation of the farm—spending his youth in clearing the forest and subduing the earth—attending school but one month. At nineteen, with his father, plunging again into the wilderness on Onion River, Vermont—yet, through all these privations to intellect, we

discover the gleaming of a transcendent genius, which at length broke forth and shone above the lights of science in the western hemisphere.

That specific talent for medical botany which beamed with unwaning splendour at threescore and ten peeped out with a precocious light at the early age of four. It was then, when one day in the fields in pursuit of the cows, that he discovered and made an experiment upon the sensible quantities of the far-famed lobelia—an experiment which he often repeated upon his companions, until his natural impulse for operating upon living bodies led him to discover it was a most powerful means of removing disease. At the age of eight, he says, " I had at that time a very good knowledge of the principal roots and herbs to be found in that part of the country, with their names and medical uses; and the neighbours were in the habit of getting me to go with them to show them such roots and herbs as the doctors ordered to be made use of in syrups, &c.; and, by the way of sport, they used to call me doctor." It was fortunate for Thomson's enquiring mind that in early life he was privileged with the society of one of those noble and benevolent women, so often despised, a doctress in roots and herbs, to whom the family was much attached, there being no other physician within ten miles. This was Mrs. Benton, who, with a bosom flowing with the "milk of human kindness," used to take little Thomson with her into the fields and woods and teach him the names of plants and their medical uses. Let her name go down to posterity embalmed with honour, remembered as the one who sowed the seeds of medical observation in the most congenial soil, from which has sprung the noble system which extends its branches especially and most invitingly to the female. Let every member of the sex imitate her example. Females are naturally physicians. May all mothers educate their sons in the wisdom of preserving health, and their daughters in the angelic art of relieving the afflicted.

At the age of sixteen Thomson's medical knowledge had attracted so much attention that his parents talked of sending him to live with a root doctor. Although he was naturally industrious, yet the pent-up fires of genius filled him with an indefinable ambition, and made him ill at ease in his occupation. "I took a great dislike," says he, "to working on a farm, and never could be reconciled to it." When the prospect of becoming a physician had given an object to his vague and smothered ambition, he was filled with delight, but only to be disappointed; for soon after his parents said he had not learning enough, besides they could not spare him. This, in his own language, made him very unhappy, and depressed

his mind with a feeling which they only who have experienced it can remember, but never tell.

By industry the family had acquired a small property, and at the age of twenty-two we find Thomson with a farm and family of his own.

Thomson had been all the while collecting his favourite knowledge, and his house was well supplied with vegetable medicines, although he had no design of becoming a physician. But it so happened that some of his family were five times given up as incurable, and he by his simple means each time succeeded in restoring them. In one instance the physician had left his little daughter to die of scarlet fever. Thomson then took the case into his own hands, and, as if acting by intuition, he took the child upon his lap, covered her and himself with a blanket, while he directed his wife to make a steam of vinegar beneath them, and he kept up the internal heat with warming drinks. In this way he soon relieved the little sufferer, and, continuing the treatment about a week, cured her.

Such was the commencement of steaming in the Thomsonian practice; likewise it was in his own family that he tasted the nature of lobelia, established the use of stimulants as a triumphant means of curing fever, and of astringents in removing the canker or aphthae from the alimentary canal, and demonstrated the entire inutility of poisons.

These instances of success in his own family soon began to be noticed by his neighbours, and those who could get no relief from the physicians appealed to him. This called his attention so much from his farm that he resolved to give it up and adopt medicine as a profession.

The first two patients that he was called to attend, of which he has given us a history, present a complete picture of his ensuing life. Successful in curing, yet treated with contempt, paid with ingratitude and perplexed with the ignorance of his patients respecting the conditions on which health is to be obtained, nothing was able to discourage him. It seems that obstructions in his way only enabled him to ascend upon a higher road to glory.

At this stage of life, he says, "After I had determined to make a business of medical practice, I found it necessary to fix upon some system or plan for my future government in the treatment of disease." This his capacious mind furnished him at once, and he struck out a system

which the experience of well over one hundred years has only served to confirm.

Like the immortal Linnaeus, who invented a system of botany that should govern all future discoveries within that kingdom, he says, " I deemed it necessary, not only as my own guide, but that whatever discoveries I might make in my practice might be so adapted to my plan that my whole system might be easily taught to others, and preserved for the benefit of the world."

In the language of his enterprising son Cyrus, "We must have no theory that cannot be carried out." This theory applies to all diseases without exception.

When Thomson arose Cullen's authority was at the head of medical science. How great the difference between these two physicians! Thomson's theory always corroborated and never contradicted his practice. Not so with Cullen's. He held that all fevers were preceded by debility, yet bled to cure them! Thomson held that they were caused by deficiency of heat, of vital force, and increased this power to cure them.

It is testified that " Cullen was feeble and hesitating at the bedside of the sick." Thomson says of himself, " I am convinced that I possess a gift in healing because of the extraordinary success I have met with."

Look at his theory, and who will deny that it corresponds with nature? "I found," says he, " that all animal bodies were formed of four elements. The earth and water constitute the solid; and air and fire, or heat, are the cause of life and motion; that cold, or lessening the power of heat, is the cause of all disease; that to restore heat to its natural state was the only way that health could be produced, and that, after restoring the natural heat, by clearing the system of all obstructions and causing a natural perspiration, the stomach would digest the food taken into it, and heat or nature be enabled to hold her supremacy."

When we consider that repeated bleeding, expectoration, and other evacuations thin the blood and prepare the way for their continuance, producing lassitude, debility, and death; and that all this is ended by a diminution of solids and an increase of the fluids in proportion—or, in the more analytic words of our author, a diminution of the earth and increase of the water— how can we blame him for saying that a state of perfect health arises from a due balance of the four elements? But if it is

by any means destroyed, the body is more or less destroyed.

When we consider a lifeless body, and find that the earth, and water, and air are there, but that the heat is gone, how can we blame him for saying that, to our agency at least, heat is life and cold is death?

With this theory and a new and unheard-of system of medicine, Thomson went forth in the practice of healing against the world. In the year 1805 we find him in practice in his native and neighbouring towns, when a fearful epidemic prevailed, supposed to be the yellow fever. The regulars lost about one half of their patients, and he lost none.

After this he continued his practice in the various chronic diseases of the country. Consumption, bleeding at the lungs, fevers, dysentery, dropsies, cancers, fits, &c., seemed to yield before his skill as by a new and magic power.

In 1806 we find him entering the city of New York, with the true spirit of Hippocrates, to investigate the nature of the yellow fever; and he found it to yield before his remedies like any other disease.

On returning again to his home, he found his character defamed by the slanders of a neighbouring physician. Attempting a defence, he was foiled by intrigue and perjury; and, wounded in his feelings, he resolved to give up his ungrateful neighbours to their fashionable doctor, upon which he tells the following serious story :—

" A curse seemed to follow them and his practice, for the spotted fever broke out in this place soon after, and the doctor took charge of those who had sided with him against me, and if he had been a butcher and used the knife there could not have been more destruction among them. Two men who swore falsely in his favour, and by whose means he got his cause, were amongst his first victims; and of the whole that he attended, about nine-tenths died. He lost sixty patients in the town of Alstead in a short time.

"I attended the funeral of a young man—one of his patients—who had been sick but twenty-four hours, and but twelve under the operation of his medicine. He was as black as a blackberry, and swelled so that it was difficult to screw down the lid of the coffin. When I went into the room where the coffin was, the doctor followed me, and gave directions to

have the coffin secured, so as to prevent the corpse from being seen. He then began to insult me, to attract the attention of the people.

"He said to me, 'I understand you have a patent to cure such disorders as that,' pointing to the corpse. I said 'No,' and intimated at the same time what I thought of him. He put on an air of importance, and said to me, 'What can you know about medicine? You have no learning; you cannot parse a sentence in grammar.' I told him that I did not know that grammar was made use of in medicine; but if a portion of it is so much like the application of ratsbane as appears in that corpse, I should never wish to know the use of it. This unexpected application of what he said displeased the medical gentleman very much, and finding that many of the people present had the same opinion that I had, irritated him so much that he threatened to horsewhip me; but I told him he might do as he pleased, providing he did not poison me with his grammar."

Those only who have experienced the sorrows common to original genius can imagine what were the feelings of Thomson as he turned away from the ridicule and base ingratitude of the people of his native town, among whom he had practised five years without losing a single patient, to seek for occupation amid the cool indifference of unenvying strangers.

After collecting a supply of medicines on Plumb Island, at the mouth of the Merrimack River, we next find him attending the wife of a Mr. Osgood, at Salisbury, Mass., who was given over to die of a lung fever by Dr. French. Thomson performed a cure in about twenty-four hours, which gained him much credit with the people, and laid a lasting enmity between him and Dr. French.

At this time also we find him making his first pupil practitioner, Mr. Hale, an intelligent man, a chemist and dispenser of mineral medicines. But he renounced them, and soon found himself usefully employed in Thomson's practice; this might well be considered as a hopeful presaging of the tribute that science was to pay to his system in after years.

Next we find him introducing the practice in Jericho, Vermont. In the following autumn a mortal disease afflicted this town in the form of dysentery. Out of twenty-two patients the physicians had lost twenty. The people were alarmed, and, holding a consultation, concluded to send for Thomson, who was then at home in New Hampshire.



He soon arrived, and, conferring with the select men who had charge of the sick, was furnished with two assistants, and in the course of three days commenced practice upon thirty patients, all of whom recovered excepting two, who were dying when he first saw them.

What a triumphant victory was here! Taking the name of the town as a hint, one cannot help associating it with the spying out and eventual triumph of Joshua at Jericho of old.

After this he practised with his usual success in several places, and then returned to Salisbury; and although he was often called to introduce the practice at other places, yet he made this place a sort of home, and practised with such success among the incurable patients of the regulars that they became alarmed, and, Dr. French taking the lead, resolved to destroy him.

After attempting to decoy Thomson to his house, and failing, he next publicly swore that he would blow out his brains if he came into his neighbourhood; at the same time saying he was a murderer and he could prove it. To defend his character, Thomson caused an action to be brought against this tiger-like doctor for his threats, which resulted in his being bound over to keep the peace;

and another for defamation, in which perjury and the influence of the doctors prevailed against Thomson.

The counsel for French inquired of the judge if Thomson was not liable to arrest, to which he answered in the affirmative. This paved the way more completely for the malice of Dr. French, who afterwards procured an indictment for wilful murder against Thomson.

Soon after the above-mentioned trial he had the misfortune to lose a patient under the following circumstances :—He was called to attend a young man, Mr. Lovett, who was in a fever, with very unfavourable symptoms. Thomson improved him so much that in two days he went out, exposed himself, and was taken much worse. Thomson was again called, but found the patient past cure, and then two regulars were called, who attended about twelve hours, when he died. For this Thomson was arrested as a murderer, put in irons, carried to Newburyport jail, confined in a dungeon, cold, filthy, and filled with vermin, without a fire, in the month of November, and without the

prospect of a trial for nearly a year.

Thomson had established the fame of his practice in the cities of Portsmouth, Newburyport, Salem, and the adjoining villages, so that many powerful friends rushed to his rescue; but among those there was none more distinguished than the grateful and indefatigable Judge Rice, whom he had cured of a dangerous fever. This gentleman procured a special session of the court, and assisted Thomson in his trial, by which he was honourably acquitted, after having been about one month in prison.

In a subsequent prosecution of Dr. French for abuse and slander while he was a prisoner, the defendant went about and took depositions wherever Thomson had lost a patient, but found only eight, Lovett included. These he brought forward in the trial as charges of murder, and although Thomson proved that they were incurable when he first saw them, or given up by the doctors to die, yet the court decided against him, and French was permitted to call him a murderer.

Such is the value, of Courts to an enterprising genius when he must wage his way against the interests of a popular profession, and such the gratitude of the world to one of its greatest benefactors.

In these troubles Thomson lost in five years as many thousand dollars, but nothing could discourage his onward way.

Passing over, as we do, many of the minor events of his history, we have next to notice the conduct of one of his first agents. He had established an office and a flourishing practice in Eastport, into which he put a young man whom he had raised from poverty and sickness. He was to have half the profits; but, not content with this, he usurped the whole, and also offered the knowledge of his system to all who would buy of him.

At the same time there was a petition sent to the legislature to prevent quackery, in which Thomson was named.

These difficulties at length induced him to go to Washington and obtain a patent for his discoveries, which he accomplished in 1813.

This added a new stimulus to his enterprise, and under the patent the sale of rights began to spread the knowledge of his system throughout

the United States. An instance of their utility, with another astonishing triumph of the practice, occurred in 1816. Thomson went to Cape Cod to collect medicines, and found the people dying for want of them. The spotted fever, or cold plague, as it was called, had broken out, and was very mortal. The small village of Eastham lost forty-six in three months. Thomson cured a number, sold the right to two men, and offered the right of the whole town for the price of twenty, but it was not accepted, as the fever was declining. He then returned home, but was soon after recalled with the greatest haste, for the disease had broken out with redoubled violence.

He soon found enough to buy the twenty rights, gave them instructions in public lectures, and, with the people to assist, Thomson and the first two right-holders attended thirty-four cases, and lost but one, while the regulars lost eleven out of twelve. These facts are attested by the ministers, the select men, justices of the peace, and postmasters.

But it was simply done : ignorant people could understand it, and the regulars have uniformly despised it— there are a few noble exceptions. Thomson in turn, with the design of preserving his system in its purity, had forbidden his agents to sell his rights and books to regulars or their students.

Thus, from a two-fold necessity, the system had to go into the hands of comparatively ignorant men. Many of these in the course of time and experience became distinguished physicians, and, forming into societies in the various states, established fixed rules for the education of students. These in turn have contributed to advance the standard medical knowledge among them, and now we have a profession with as great and varied attainments as the regulars.

It is now a very common saying, made to our better class of practitioners—" Your system, I believe, is a very good one, but it has been injured by everyone going into it who did not understand the human system." They condemn the ignorance of our early practitioners: let them carry out their principles. Not one-seventh of our physicians have so extensive a knowledge of anatomy, chemistry, &c., as the regulars. Say to these two thousand practitioners, " Stop your labours and go to college." What would be the consequence? Thousands must die while they are getting an addition to the knowledge not worth so much as a penny to a dollar compared to what they already know.

But the knowledge of this system must eventually become public property, and thus the basis of a most exalted medical science; no thanks, however, to those who would keep the practice in their own hands.

Already more than one hundred regular medical men have embraced it. About a dozen periodicals are published in its support. It numbers two colleges—one in Ohio and one in Georgia. According to the estimate of Dr. Waterhouse, Thomson lived to see three millions of his own countrymen bless the day that he was born. He lived, too, to see his system carried into the old hemisphere, and in gold medals receive the compliments of the kings of Europe.

He who shall attempt to rob him of his hard-earned honours must submit his own name to be "scathed with lightnings of public indignation" by the people of coming ages.

What if it should appear that the vapour bath had been used before in the remote parts of Europe? What if it should be proved that lobelia had been previously used by certain Indian tribes? What if cayenne had been mentioned in some medical works? If Thomson learned these things by his own experience, are the discoveries any less his? Echo only answers.

To have been no more than the discoverer of the emetic virtues of lobelia should have distinguished his name :

To have only laid the basis of the system for others to complete should have made him great :

Or, completing it, to have left it to others to demonstrate and make popular should have made him immortal:

But to have discovered the elements of a materia medica, to have formed them into a system, governed it by a theory, holding all in his own hands with a strength and perseverance common only to a giant intellect, and bringing it to bear with overwhelming success against the world of perverted and perverting regulars, has placed the name of Thomson on one of the loftiest and most unapproachable pinnacles of fame.

**OPINIONS OF THE LEARNED.—**Dr. Waterhouse, for twenty years

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professor of the theory and practice of medicine in the University of Cambridge, Mass., regarded in Europe as a philosopher, and a member of many distinguished societies, in a letter to Dr. Samuel Thomson, writes thus:—" I remain firm in the opinion that. you were the discoverer of the *remarkable* medicinal virtues of the *Lobelia Inflata*; that you were the originator of the compound process, very extensively known under the title of the Thomsonian practice or system; I mean the uniting the vapour bath with the cleansing of the whole alimentary canal.

" I value it on this account. *It effects in three or four days what regular physicians used to occupy as many weeks to accomplish.* Your discovery is highly valuable, and on this account it was that I spoke so freely and strongly in commendation of the new practice and was not ashamed to hail you as a REFORMER."

Again, in a letter to Dr. Thomson, junr., he writes thus :—" Had not the theory and practice of your father been founded in *Truth and Nature*, it could not have maintained its reputation thus far, but would long since have been swept into nonentity; yet amidst opposition, and even persecution, Dr. Samuel Thomson has had the solid satisfaction of knowing that *Time has increased his reputation* and imparted firmness to a practice hitherto unheard of amongst us. I pronounce him a PUBLIC BENEFACTOR."

Thomas Hearsy, for forty years a regular practitioner and a surgeon in the United States Army during the last war, elected surgeon-extraordinary to the Petersburg Volunteers and Major Stodard's Artillery, one of the founders of the Western Medical Society of Pennsylvania, and lastly a distinguished Thomsonian author and editor, in a letter to Dr. Thomson, writes thus :—

" My practice has been extensive—my experience and opportunity for observation has seldom been exceeded;

but I venture to pledge myself upon all I hold sacred in the profession, that, in my estimation, the discoveries of your honoured father have a decided preference, and stand unrivalled *by all that bears the stamp of ANCIENT or MODERN skill.*"

# **MATERIA MEDICA.**

## **STIMULANTS.**

PURE healthy stimulants are those substances which act in harmony with the laws of nature, and, while they stimulate, do not affect the brain to injure it, nor increase the pulsation beyond its natural standard. When taken they have a pungent taste, and, when swallowed, impart to the stomach a genial sensation of warmth, which, under favourable circumstances, produce perspiration.

The stimulants thus described will carry the requisite proportion of blood to every part, or, in other words, restore an equal balance in the circulation, and hence they may be employed safely and efficiently in fever, inflammation, and in every state of congestion. They exert a healthy action in the system, without irritating the parts they come in contact with, arousing the dormant energy of the nervous system without deranging the animal economy.

Food is a sufficient stimulant in a healthy system, keeping the wheels of life in motion; but when from causes over which we have no control, the food fails to impress the stomach in a healthy manner, it is necessary to resort to a stimulating medicine. Stimulants are indispensable in the treatment of disease. Combe states that five out of every eight pounds of substance taken into the system pass out of it again by the skin, leaving only three pounds to pass off by the bowels, lungs, and kidneys; thus we see at once when the skin is inactive, or the circulation feeble, the blood will be charged with impurities; and unless stimulants are administered to keep up a determination of blood to the surface of the body, to let out the impurities, disease is sure to creep in; or if the blood recedes from the surface, leaving the skin pale, cold, and contracted, as in cholera, stimulants are necessary to bring the blood to the surface, or death will be the result. In contending for the use of stimulants we do not recommend the use of acrid or narcotic poisonous stimulants, or the success of our practice would be no better than that of the allopathic physicians.

Opium is a stimulant, but it is a narcotic also; and not only does it stupefy the brain, but in large doses occasions convulsions and death.

Tartar emetic is one of the poisonous stimulants used largely by the

medical profession; it produces a morbid condition of the stomach, and not unfrequently gives rise to inflammation.

Phosphorus is a dangerous stimulant, and produces a variety of dangerous symptoms.

Alcohol holds a conspicuous place amongst narcotic stimulants. In health its effects are giddiness, confusion of thought, delirium, vertigo, stupidity, headache, sickness and vomiting.

Dr. Christain relates the case of a young man in Paris who died from drinking brandy in a large quantity for several days in succession; and on examination after death his stomach was found to be in a state of mortification and the whole of the small intestines were in the incipient state of inflammation.

If such effects are produced in healthy individuals by the use of alcohol, it is the height of madness to recommend it as a medicine in case of sickness; it may rouse the energies of an exhausted system for the moment, but will soon be followed by drowsiness, stupor and death.

### **CAYENNE—*Capsicum Minimum*.**

*Stimulant, cathartic, rubefacient.*

Capsicum is the botanical name of a large genus or family of plants which grow in various countries, as Africa, South America, and the East and West Indies. We use only the African bird pepper, as it retains its heat longer in the system than any other, and is the best stimulant known. It has a pungent taste, which continues for a considerable length of time; when taken into the stomach it produces a pleasant sensation of warmth, which soon diffuses itself throughout the whole system, equalising the circulation. Hence it is so useful in inflammation and all diseases which depend upon a morbid increase of blood in any particular part of the body. According to analysis, cayenne consists of albumen, pectin (a peculiar gum), starch, carbonate of lime, sesquioxide of iron, phosphate of potass, alum, magnesia, and a



Cayenne :  
*Capsicum Minimum*.

reddish kind of oil. In apoplexy we have found it beneficial to put the feet in hot water and mustard, and at the same time give half a teaspoonful of cayenne pepper in a little water. This treatment has caused a reaction, taken the pressure of the blood from the brain, and by this means saved the patient. Some may ask, " Will it not produce an inflammatory action?" We say decidedly not, for there is nothing that will take away inflammation so soon. We have used it in every stage of inflammation, and never without beneficial results. Mr. Brice, the well-known traveller, lays it down as a positive rule of health that the warmest dishes the natives delight in are the most wholesome that strangers can use in the putrid climates of lower Arabia, Abyssinia, Syria, and Egypt. Marsden, in his history of Sumatra, remarks that cayenne pepper is one of the ingredients of the dishes of the natives. The natives of the tropical climates make free use of cayenne, and do not find it injurious. Dr. Watkins, who visited the West Indies, says the negroes of those islands steep the pod? of the cayenne in hot water, adding sugar and the juice of sour oranges, and drink the tea when sick or attacked with fever. It is very amusing to see the medical men prohibiting the use of cayenne in inflammatory diseases as pernicious, if not fatal, and yet we find them recommending it in their standard works for the same diseases. Dr. Thatcher, in his Dispensatory, says :—" There can be but little doubt that cayenne furnishes us with the purest stimulant that can be introduced in the stomach." Dr. Wright remarks that cayenne has been given for putrid sore throats in the West Indies with the most signal benefit. Paris, in his Pharmacologia, says' that the surgeons of the French Army have been in the habit of giving cayenne to the soldiers who were exhausted by fatigue. Dr. Fuller, in his prize essay on the treatment of scarlet fever, says :

"Powdered cayenne made into pills with crumbs of bread, and given four times a day, three or four each time, is a most valuable stimulant in the last stage of the disease, and is also good in all cases of debility, from whatever cause it may arise." Cayenne given in half-teaspoonful doses, mixed with treacle and slippery elm, at night, is a valuable remedy for a cough. Bleeding of the lungs is easily checked by the use of cayenne and the vapour bath. By this means circulation is promoted in every part of the body, and consequently the pressure upon the lungs is diminished, thus affording an opportunity for a coagulum to form around the ruptured vessel. In advocating the use of cayenne, we do not wish it to be understood that it will cure everything, nor do we recommend it to be taken regularly, whether a stimulant is required or not. Medicines ought to be taken only in sickness. If persons take cold a dose of



cayenne tea will generally remove it, and by this means prevent a large amount of disease. It is an invaluable remedy in the botanic practice.

### **LOBELIA (Herb and Seed)—*Lobelia Inflata*.**

*Emetic, stimulant, expectorant, diaphoretic, antispasmodic, and sometimes cathartic.*

*Lobelia Inflata* is one of the most valuable herbs used in the botanic practice. Much has been written as to whether this herb be a poison or not. Practical experience—which is far better than theory—has proved that it is as harmless as milk, and instead of being a poison it is an antidote to poison. The analysis of its chemical constituents shew it to



*Lobelia Inflata*.

contain an alkaloid lobelina and an acid lobelic acid, resin, wax, and gum; the seeds contain in addition about 30 per cent. of fixed oil. We have attended cases where poison has been given in mistake, and lobelia has had the desired effect of discharging the contents of the stomach. Medical men are often deluded by giving heed to mere opinions instead of noticing facts; but men who have divested themselves of that which has been taught them in the medical schools have discovered truth from error. Dr. Butler, who wrote about lobelia in 1810, says: "It has been my misfortune to be an asthmatic for about ten years, and I have made trial of a variety of the usual remedies with very little benefit. The last time I had an attack it was the severest I ever

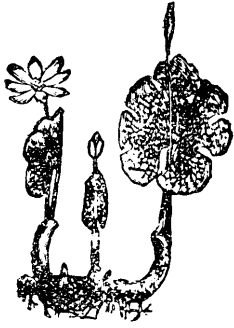
experienced; it continued for eight weeks. My breathing was so difficult that I took a table-spoonful of the acid tincture of lobelia, and in about three or four minutes my breathing was as free as ever it was. I took another in ten minutes, after which I took a third, which I felt through every part of my body, even to the ends of my toes; and since that time I have enjoyed as good health as before the first attack." We have prescribed the acid tincture of lobelia inflata for whooping cough with striking success. There is no other medicine that so effectually frees the air-passages of the lungs of their viscid secretions. As an emetic, we are satisfied that it is as kind and destitute of all hazard as ipecacuanha, though it is more efficient; and we consider it one of the best remedies in the whole materia medica; and are confident—the old women's stories in the books (meaning the medical school books) to the contrary

notwithstanding—that lobelia is a valuable, a safe, and a sufficiently gentle article of medicine; and we think the time will come when it will be much better appreciated. Little, however, of its value, can be specified within the compass of a single sheet of paper. We not only give it to our patients, but take it ourselves whenever we have occasion for an emetic. We can assure the public that. it can be used without apprehension of danger; we have given it to infants a few months old. It tends to remove obstructions from every part of the system, and is felt even to the ends of the toes; it not only cleanses the stomach, but exercises a beneficial influence over every part of the body; it is very diffusible, however, and requires to be used with cayenne or some other permanent stimulant. The effects of lobelia may be compared to a fire made of shavings, which will soon go out unless other fuel be added; cayenne, therefore, may be said to keep alive the blaze which the lobelia has kindled. We can bear testimony that it is harmless when given in a proper manner; we never saw any evil effects, and our experience should be worth something when we say that we have sold in our practice upwards of one hundred pounds weight per year for seventy years past, which, according to the notions of some medical men, would have been sufficient to poison one-half of the population of England. There is no other medicine that is half so effective as lobelia in removing the tough, hard, and ropy phlegm from asthmatic and consumptive persons. It is an indispensable medicine in fevers, bilious, and long-standing chronic complaints. We have used it for deafness with good results. (See Index, " Deafness to cure.") It is also useful in poultices to assist suppuration. There are some writers who state that it will cure hydrophobia, if taken inwardly and applied externally as well. The medical qualities of this invaluable herb are so multifarious that a large treatise might well be written on its curative powers. Suffice it, however, to say that it is a general corrector of the whole system, innocent in its nature, and moving with the general spirits. In healthy systems it will be silent and harmless. It is fully as well calculated to remove the cause of disease as food is to remove hunger; and it clears away all obstructions in the circulation, not regardless of the nature of the disease.

### **BLOOD ROOT—*Sanguinaria Canadensis*.**

*Emetic, sedative, febrifuge, stimulant, resolvent, and expectorant.*

The root of a smooth herbaceous perennial plant, with white scentless flowers growing profusely in the United States of America. Used in dyspepsia, jaundice, liver, lung, and kidney affections; in small doses it



Blood Root.

stimulates the digestive organs, and increases the action of the heart and arteries, acting as a stimulant and tonic; in larger doses it acts; is a sedative, reducing the pulse, and causing nausea and sweating, it increases expectoration, and stimulates the action of the liver. It is a successful remedy in bronchitis, laryngitis, whooping cough, and other affections of the respiratory organs. Also good in dyspepsia as a stimulant tonic, and as an alternative in jaundice and rheumatism. As an external application it has been found beneficial in ulcerations and other offensive discharges, and when formed into ointment has proved useful in eczema, herpes, and other diseases of the skin. It possesses escharotic as well as antiseptic properties, and is thus used to remove nasal polypus; applied to the surface of foul and indolent ulcers, it cleanses them and disposes them to heal.

### **BRYONY—Bryonia Dioica.**



Bryonia Dioica.

The fresh root of Bryonia Dioica, gathered before the time of flowering. Used in rheumatic, arthritic, and catarrhal inflammation, also in headache of a distressing character, hot and dusky, pain burning, stitching or tearing, and aggravated by motion. Preparation : Fluid Extract. Dose : One to five drops, in a little cold water, two or three times each day.

### **BLACK BRYONY—Tamus Communis.**

This root is used to remove discolouration caused by bruises on any part of the body, and soon cures black eyes. It is good also for pain in the face. Scrape a little of the root, and lay it on the part affected. It is also efficacious when taken internally, two or three times a day, in quantities about the size of a hazel nut, scraped small, for dropsy or gravel.

### **PRICKLY ASH—Xanthoxylum Americanum.**

*Stimulant, tonic, alterative, and astringent.*

The Prickly Ash is a small tree, 10 or 12 feet in height, with alternate branches and strong prickles; the leaves are alternate and pinnate. The bark and berries are the parts used in medicine. It warms and



Prickly Ash.

invigorates the stomach, is useful for cold hands and feet when the coldness is dependent upon a

sluggish circulation, it is an excellent remedy in paralysis owing much of its curative influence to its stimulating and alterative properties. The bark chewed will relieve toothache. It may be taken in infusion, but a tincture of the bark and

berries is the better preparation. (See Tincture Prickly Ash.)

### **VIRGINIA SNAKE ROOT—*Aristolochia. Serpentaria.***

*Stimulant, diaphoretic, tonic, and diuretic.*



Virginia Snake Root.

Part used : the root. Medically it is used in typhoid, typhus, scarlatina, chronic bronchitis, and pneumonia; it promotes elimination, sustains the flagging powers, assists expectoration and relieves pain in the back and kidneys. Preparations : Tincture, Compound Tincture, Fluid Extract. Dose :

ten to thirty drops. The powdered root half a teaspoonful with half a teacupful of boiling water three times a day. Clear only to be taken.

### **GINGER—*Zingiber Officinalis.***

*Stimulant, rubefacient, and diaphoretic.*



Ginger.

This well-known root is indigenous to both the East and West Indies, and China; but the best quality is imported from Jamaica. Ginger analysed is found to contain volatile oil, gum, starch, and soft pungent resin. Ginger has a pungent and aromatic taste. It is used as an antispasmodic, a stomachic, and a carminative, and is useful in flatulency, colic, debility, and laxity of the stomach; it is also a very good substitute for cayenne. When made into tea and drank warm on going to bed, it will relieve a sudden or slight cold. Ginger should never be boiled, as that impairs its

strength. A pleasant drink can be made in the following manner :—Best ginger, bruised, two ounces; one pint of boiling water; let it stand in a warm place a sufficient length of time for the strength of the ginger to be extracted; then strain, and add one pound of loaf sugar dissolved by gentle heat; bottle when cold. This is a stomachic, cordial, and carminative. A dessertspoonful taken five or six times a day, in a little hot water, will relieve the stomach of wind, and prove useful for the above enumerated affections.

### **CLOVES—*Eugenia Caryophyllata.***

*Aromatic and stimulant.*

Cloves are the dried buds or unexpanded flowers of a beautiful evergreen tree called the *Eugenia Caryophyllata* which grows in the East Indies and other tropical climates. Medical Properties and Uses : Cloves are a stimulant and aromatic astringent, and useful to allay nausea and vomiting, to relieve flatulent colic, to improve digestion, as a healthy stomachic, and as an astringent, also valuable as an ingredient in compounds for the cure of diarrhoea and dysentery. A little powdered cloves is often combined with other medicines to prevent them from griping or producing sickness at the stomach. Dose of the powder from ten to twenty grains, to be taken in a little hot water several times a day.

## **DIAPHORETICS AND SUDORIFICS**

are medicines which, taken internally, increase the discharge by the skin. When this effect is produced in a great degree, so that sweat is collected in drops on the surface of the skin, the medicines or means employed are designated sudorifics, between which and diaphoretics there is no difference, the operation being the same. Sudorifics and diaphoretics may then be considered synonymous terms.

### **YARROW—*Achillea Millefolium.***

*Sudorific, tonic, astringent, diuretic, and anti-scorbutic.*

There is not a single herb in the whole vocabulary that has done so much good, or is more universally esteemed; it has prevented more disease and more doctor's bills— which is a great matter, since medical



Yarrow.

men have learnt the art of making large figures—than all the books they have written on medical science. What is the practice now? I have got a cold, I feel almost starved to death; I take a strong tea of yarrow, and have a hot brick wrapped up in a vinegar cloth and applied to the feet. A sweat is the result, and in the morning the cold has vanished. Who can tell to what extent this simple remedy has prevented disease? It is also useful in fluor albus or whites in women, and, combined with poplar bark and golden seal in equal parts, is useful for piles. A strong infusion is a specific to stay hemorrhage in the bowels; lint steeped in it and put up the nostrils will stop bleeding of the nose.

### **VERVAIN—*Verbena Hastata*.**

*Sudorific, tonic, emetic, expectorant, and diuretic.*



Vervain.

Vervain is a perennial plant, growing in waste places; along hedgerows, and in hard dry ground; has an erect stem one to two feet high, leaves are lance shaped, deeply cut or serrated with small whitish-blue flowers. Flowers June to August. It is a valuable tonic in fever and ague or chills; used in discretion along with boneset leaves, it forms an excellent restorative medicine. One or two teacupfuls of the strong decoction will operate as an emetic, and is used for that purpose by people in the country.

### **SAGE—*Salvia Officinalis*.**

*Astringent, stimulant, and nervine.*

The red is the best. Mixed with vinegar and honey it is good as a gargle for sore throats. It also allays nervous excitement and dizziness in the head; and is used to produce perspiration, and taken for a few days will prevent the possibility of the food being formed into milk. Whoever has inflammation or gatherings, or sore breasts, can by this herb cause the milk thoroughly to leave in a few days.

## **PENNYROYAL—*Mentha Pulegium.***



Pennyroyal.

*Stimulant, diaphoretic, and carminative.*

Is warming to the stomach; relieves spasms, hysterics, or colics. It makes a cooling drink for children in fevers, and is a favourite herb for female derangement, removing all obstructions peculiar to women arising from obstructed menstruation. It should never be boiled, as the volatile essence escapes,

## **MOTHER-WORT—*Leonurus Cardiaca.***

*Diaphoretic, tonic, and nervine.*

Is one of the most useful herbs to relieve obstructed menstruation; and is also useful in chronic headache, hysteria, and nervousness.

## **SPEARMINT—*Mentha Viridis.***

*Febrifuge, diuretic, and stimulant.*



Spearmint.

It has a pleasant aromatic odour; the infusion is good to allay nausea and vomiting. It is beneficial in pains of the stomach and bowels, and to expel wind. We highly recommend the essence as an outward application for piles. Two or three applications seldom fail to remove this complaint.

## **PEPPERMINT—*Mentha Piperita.***

*Stomachic, stimulant, and sudorific.*

Is a fragrant aromatic herb, growing from one to two feet high, preferring moist rich soil. It is very extensively and profitably cultivated in Kent for the purpose of distilling the oil. It is an agreeable and powerful aromatic stimulant, carminative, anti-spasmodic, and anti-emetic. Used to relieve flatulent colic and griping pains, to promote perspiration, and to allay nausea and sickness at the stomach, in hysterical affections, and bowel complaints of children. It should be used in sweetened infusion freely.

## CALAMINT—*Calamintha Nepeta*.

*Stimulant, stomachic, and diuretic.*

Is a specific for pains in the head; it is also beneficial for gravel complaints. We use it, combined with rosemary and wood betony, for water on the brain; it is also a good herb for female obstructions.



Rosemary.

## ROSEMARY—*Rosmarinus Officinalis*.

*Tonic, astringent, and diaphoretic.*

Is comforting to the stomach. A tea made from the herb is good for pains in the head. It is also good as a wash for the head, to prevent the hair from falling off, when prepared as follows :—Boil one ounce each of rosemary and southernwood in a pint of water for fifteen minutes; when cool, filter through a cloth; then add two ounces of compound spirit of ammonia, and three ounces of olive oil. Apply with a sponge at bed-time.—This preparation is sold by the author, in bottles, at one shilling and sixpence.

## WOOD BETONY, *Betonica Officinalis*.



Wood Betony.

This is an excellent herb for those distracted with pain in the head, and will cure dizziness and all nervous complaints in the head; it has cured softening of the brain and other complaints.— (See Head-ache).

## HYSSOP, *Hyssopus Officinalis*.

*Stimulant, expectorant, and, diaphoretic.*

It has long been a favourite herb with the working classes, there being scarcely a garden without this plant. It is good for asthma, coughs, and colds, and for a drink in slow typhus fever.



Hyssop.



## FEVERFEW, *Pyrethrum Parthenium*.

*Emmenagogue, nervine, stomachic and stimulant.*

It is serviceable in female obstructions and hysteria; it is also good for a drink before and after confinement.

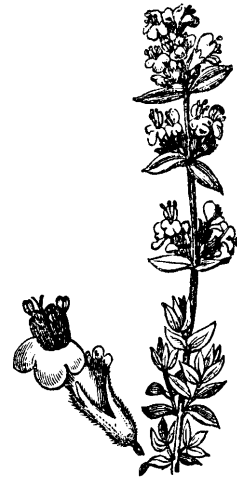


Feverfew.

## THYME—*Thymus Vulgaris*.

*Tonic, carminative and anti-spasmodic.*

It is a common small wild plant with purple flower, and is of great virtue for the lungs, coughs, inflammation of the lungs, and whooping cough. It is a good nervine, and taken freely will cure those troubled with nightmare.—Pour one pint of boiling water upon an ounce, sweeten with loaf sugar. Dose: Over twelve years, take half a teacupful three times a day; children, a small quantity often.

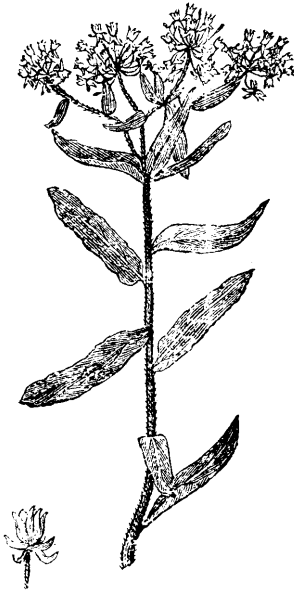


Thyme.

## PLEURISY ROOT, *Asclepias Tuberosa*.

*Sudorific, diuretic, laxative, tonic, and anti-spasmodic.*

We consider it unequalled as a single herb for inflammation of the lungs, pleurisy, difficulty of breathing, tightness of the chest, asthma, and catarrhal affections of the lungs. It is employed with advantage in fevers of all kinds, whether high or low, or sinking typhus, keeping the skin generally moist. It is used in our fever and cough powders. Its activity is impaired when exposed to the air. We consider it a specific in measles, being far superior to saffron.

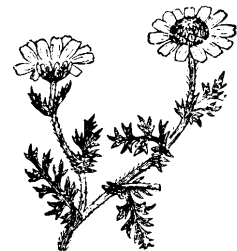


Pleurisy Root.

## CHAMOMILE FLOWERS—*Anthemis Nobilis*.

*Diaphoretic and tonic.*

They are useful for weak stomachs, and if taken freely will remove slight colds; they make a good fomentation



Chamomile Flowers.

in cases of inflammation; they form a good assistant while taking an emetic, and will cure the itch by washing the part affected. The foreign flowers are not so good as our English ones, and in many instances the oil, which is the essential property, is taken from them, and the flowers are then dried and re-sold.

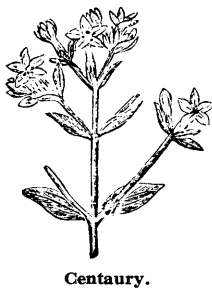
### **MARJORAM—*Origanum Marjorana*.**

*Stimulant, tonic, aromatic, and diuretic.*

It warms and invigorates the stomach, eases difficulty of breathing, and is good for dizziness and pains in the head.

## **TONICS.**

Medicines which increase the tone of the muscular fibre; they consist of vegetable bitters. These remedies act by their influence on the digestive organs, and hence on the whole system. The use of a bitter principle in vegetables is exemplified in the case of animals which feed on them, for it has been found that if restricted to a food which has not a sufficiency of a bitter principle they soon become weak and die. The wisdom of Divine Providence is manifested in the fact that the majority of plants in the vegetable kingdom contain this bitter principle so essential to animal existence.



### **CENTAURY—*Erythroea Centaurium*.**

*Antibilious and tonic.*

It is a most pleasant bitter, creates an appetite, and is beneficial in jaundice and chronic liver complaints. It may be used alone or combined with others for indigestion.

### **WHITE POPLAR BARK—*Populus Tremuloides*.**

*Tonic and diuretic.*

This is an excellent remedy for debility, indigestion and consumption, faintness at the stomach, head, and impure state of the blood. It

possesses superior diuretic properties, and is particularly useful in strangury obstructed urine; hence it is good for old people and those who have been brought low by disease. It is the most renovating medicine that can be employed; it equals quinine, and is far less expensive.—Dose : A teaspoonful of the powder in half a teacupful of warm water three times a day, leaving the sediment.

### **BARBERRY BARK—*Berberis Vulgaris*.**

*Tonic, and in large doses laxative.*



Barberry Bark.

It is very renovating in jaundice, removes costiveness, and regulates the digestive organs; the berries are a pleasant acid and an astringent;

sweetened with loaf sugar they make a pleasant drink in bilious fluxes and when there is a putridity of humours.

### **ENGLISH GENTIAN—*Gentiana Campestris*.**

*Tonic, diuretic.*

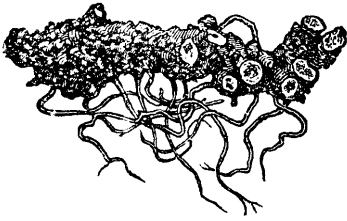
This herb, which has been much neglected, is highly serviceable in weak stomachs, creates an appetite, and strengthens digestion. It is a valuable medicine in female weakness; it gives a tone to the whole system, and promotes the monthly terms.

### **CALUMBA ROOT—*Jateorhiza Columba*.**

Is a mild tonic, useful as a remedy to increase the appetite and promote digestion, by removing the relaxed conditions of the gastro-intestinal tract, and increasing secretion of gastric juice. It is useful after protracted diarrhoea and dysentery, when a non-irritating tonic is needed. The tincture given in fifteen to twenty drop doses will relieve the vomiting in sea sickness, and has been beneficial in the vomiting of pregnancy.

### **GOLDEN SEAL—*Hydrastis Canadensis*.**

Is a native of North America, and is known also by the names. Yellow Puccoon and Ground Raspberry. The root is the part used medicinally; it



Golden Seal.

is a mild, non-irritating tonic, and may be used wherever a stimulating tonic is needed; it has a powerful action upon the mucous membranes, which renders it useful in cases of gastric debility, indigestion, hepatic congestion, and other affections of the liver. It also possesses considerable influence on the nervous system, and in combination with capsicum is a superior remedy in chronic alcoholism; for this purpose; and also as a general tonic in indigestion we use equal parts of the tincture of hydrastis, cayenne and Balmony.—Dose : Twenty-five to thirty drops in two tablespoonfuls of water, three times a day, before meals. Omitting the cayenne it is an admirable tonic for weakly children, in doses of from five to ten drops in sweetened water according to age.



Buckbean.

### **BUCKBEAN, *Menyanthes Trifoliata*.**

*Tonic, deobstruent and antiscorbutic.*

It is a useful remedy in all cutaneous diseases arising from obstructions in the liver.

### **GUM MYRRH—*Balsamodendron Myrrha*.**

*Tonic, antiseptic, and stimulant.*

It is useful in diminished appetite, giving a tone to the stomach and bowels; it is indispensable in diarrhoea, cholera, and inflammation of the bowels, as it prevents mortification; it is also good in catarrh and bronchitis. A small quantity sprinkled on old sores or ulcers every time they are dressed will tend to heal them. We also use gum tincture both as a liniment externally and a lotion for inflammation of the eyes, as will be named in the compounds. It is employed as a gargle for sore mouths and throats and spongy gums, and taken inwardly removes foetid breaths; it makes a good dentifrice.

### **UNICORN ROOT—*Helonias Dioica*.**

*Tonic, expectorant, and stomachic.*

It is good for loss of appetite, pains in the breast and sides; it is excellent in female weakness and nervous disorders.

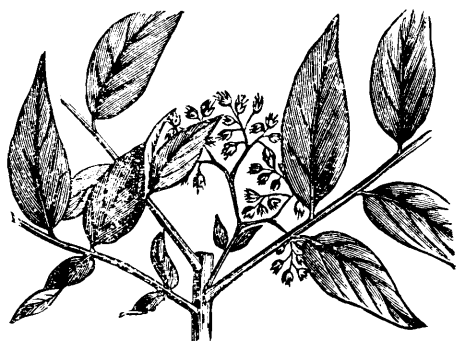
## PERUVIAN BARK—*Cinchona Succirubra*.



Cinchona.

Tonic, astringent, antiseptic, and febrifuge. A tall evergreen tree, native of South America, chiefly Southern Peru and Bolivia. This is one of the best tonics in the materia medica, it is employed in dyspepsia, neuralgia, epilepsy, remittent and intermittent fevers. It is a cerebral stimulant, and favours the elaboration of red blood in the body, and may be used with excellent results in all states of debility, both acute and chronic. The medical properties of cinchona are very numerous; it improves digestion, invigorates the nervous system, acts as a constructor of vital force, having in this respect considerable healing influence upon the lungs; hence, in pneumonia it is a sovereign remedy. Quinine is an alkaloid prepared from this bark, and is of great use in all febrile cases, as a general tonic, however, for general use, we prefer a fluid extract of the bark given in doses of from one-half to one drachm, in water, three or four times a day after food.

## QUASSIA—*Picraena Excelsa*.



Quassia.

In medicinal doses quassia acts as a certain mild non-irritating tonic; is a useful remedy in all debilitated conditions of the gastro-intestinal canal, vertigo, vomiting, headache, some forms of diarrhoea, and catarrhal states of the stomach and bowels are benefited by it, for ascarides or seat worms it is used by enema. A tincture prepared from the chips coarsely powdered four ounces, to one pint of alcohol.—Dose : Half a drachm to one drachm in water three times a day.

## GENTIAN—*Gentiana Lutea*.

*Tonic, stomachic, and nervine.*

The root may be used, either in substance, decoction, or tincture, most commonly used in bitters, along with other ingredients.



Gentian.

## **RUE—Ruta Graveolens.**

*Tonic, vermifuge, diuretic, and laxative.*

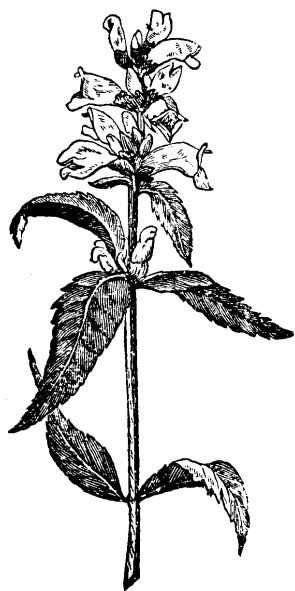
This has been a favourite herb from time immemorial; sweetened with honey, it is good for thrush in children, and ought to be given to all infants a few days or weeks old; it clears the stomach, and often prevents convulsions, and will cure fits. Pour on to rue boiling water, make it strong and sweeten with loaf sugar; give a teaspoonful of it as often as required. It is also good for epilepsy and female obstructions.

## **MUGWORT—Artemisia Vulgaris.**

The infusion promotes perspiration, urine, and menstruation, and is good for hysteric fits.

## **BALMONY—Chelone Glabra.**

*Tonic and laxative.*



Balmony.

This plant is called bitter herb, snake head, shell flower, and tremble blossom. It is an American plant, growing in thickets and meadows, where the ground is wet. The leaves are edged with acute teeth; the flowers are tinged with a delicate shade of red. We use it as a laxative for dyspepsia and loss of appetite; given to children affected with worms it affords speedy relief. It is a valuable medicine in disorders of the liver and in jaundice; it removes the yellow tinge from the eyes and skin.—Dose : A tea-spoonful of the powder in half a cupful of hot water four times a day, sweetened with sugar.

## **DIURETICS.**

Diuretics are those medicines which increase the secretion of urine, and thus stimulate the kidneys to a vigorous action. From many causes the kidneys become inactive and consequently do not secrete from the blood that quantity of urine which is necessary to keep the blood in a state of purity; and when the kidneys do not separate the urine from the blood, it is carried through the circulation, producing various diseases of the

skin, also strangury, stone, gravel, and dropsy; in fact, it is nature's bleeding point; and it should be borne by every botanist, and by the heads of families, that the body cannot be in a healthy state while the kidneys are in a torpid condition.

### **QUEEN OF THE MEADOW—*Eupatorium Purpureum*.**

Diuretic, aromatic, and astringent. This is a most valuable medicine for all obstructions of the urinary organs. Bad cases of gravel and dropsy have yielded to this plant alone.--The dose is a tea-spoonful of powder in a cupful of water three or four times a day, as the case may require.

### **BROOM—*Cytisus Scoparius*.**

*Diuretic and anti-scorbutic.*

Is a leguminous plant, growing from two to six feet high, in sandy places; the leaves are small and downy; the flowers numerous and of a bright yellow colour; it flowers from April to June, and is widely distributed throughout the Kingdom. The tops and flowers are the parts used, they have a bitter and rather disagreeable taste; it is one of our most useful diuretics, highly recommended for most forms of dropsy, retention of urine, and for hydrocephalus or water on the brain. An infusion of one ounce of the

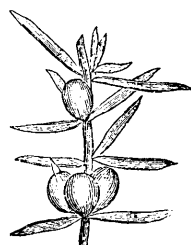


Broom.

herb to a pint of boiling water is the best form for use, and should be taken freely.

### **JUNIPER BERRIES—*Juniperus Communis*.**

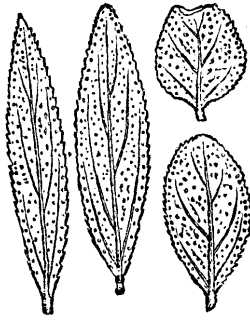
*Diuretic.*



Juniper.

A pleasant diuretic, and may be used to advantage in all cases of dropsical complaints; good for pains in the back and kidneys—far better than common gin, which is so much used for those complaints. They also promote the monthly terms. The oil is most essential, taken from ten to fifteen drops on lump sugar three times a day.

## **BUCHU LEAVES—*Barosma Betulina.***



Buchu Leaves.

*Diuretic and aromatic.*

An infusion of the leaves is good for increasing the secretion of urine and removing obstructions in the bladder. Old people especially will find great benefit by taking the following preparation :— Pour three gills of boiling water on one ounce of leaves, and let it stand for four hours. Take a wine-glassful three times a day.

## **PARSLEY PERT, *Alchemilla Arvensis.***

This is a well-known remedy for gravel; it is a good diuretic, and exercises great control over the kidneys and bladder. A tea of this plant may be taken alone, or combined with others.

## **UVA URSI—*Arctostaphylos Uva Ursi.***



Uva Ursi.

This is a powerful remedy for removing lumbago, and pains in the back; it has no equal in chronic inflammation of the kidneys and bladder, it is a specific in the ulceration of those organs. A tea may be made by boiling the leaves, taking from a gill to a pint per day.

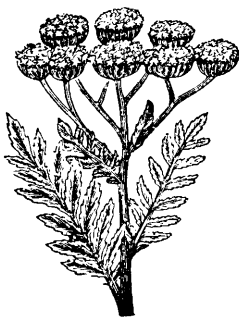
## **WILD CARROT (Seeds and Tops)—*Daucus Carota.***

A good diuretic, and useful in gravel and other diseases of the urinary organs.



Wild Carrot.

## **TANSY— *Tanacetum Vulgare.***



Tansy.

Diuretic, tonic, and stimulant. It makes a good medicine for strangury, pain in the back and loins, is useful in painful menstruation, and is a valuable herb for female weakness. We have never known it fail to cure palpitation of the heart in a few days. Boil one ounce in a pint of water for ten minutes, and take half a teacupful three times a day. The flowers, dried and powdered fine, and a teaspoonful taken in treacle is an effectual medicine for worms, which they visibly

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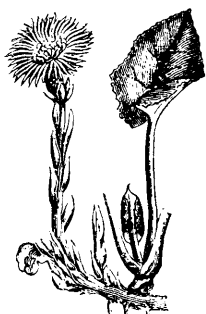
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destroy. We have often proved their efficacy, and they form part of the ingredients in our worm powders.

### **COLTSFOOT, *Tussilago Farfara*.**

This herb is well known to almost everyone. It flowers early in the spring, and is gathered freely by the children and women of Yorkshire and Lancashire for the purpose of being made into coltsfoot wine. The leaves follow the death of the flower. It is most excellent in pulmonary disease, made into an infusion with sanicle, ground ivy, and horehound. There is only one reason why it is not valued, and that is because of its abundance; if it were a very rare plant, imported from some other country, it would be considered invaluable. The leaves are good for colds and severe coughs, and will cure when other medicines fail. It is prepared as follows:— Take two ounces of the plant in a dry state, and boil in three gills of water for fifteen minutes; sweeten with candied sugar or two ounces of honey. Take a wine-glassful four times a day; half quantity for children.



Coltsfoot.

### **AVENS—*Geum Urbanum*.**

Avens grows abundantly on the borders of woods, and on shady hedgebanks; flowers from May to August. The flowers are bright yellow, solitarily on long footstalks. It is an old febrifuge, and is used in intermittent fevers, pleurisy, dysentery, flatulent colic, asthma, and haemorrhage of the lungs. The whole plant is used, but its virtues are strongest in the root. Another species is the Water Avens (*Geum Rivale*), a shorter and stouter plant, with drooping flowers; its virtues are similar to *geum urbanum*. A fluid extract of the root is the best preparation, but it may be used in infusion, one ounce of the herb or root to a pint of boiling water.—Dose : Two to four ounces three or four times a day.



Avens.

### **CATMINT—*Nepeta Cataria*.**

*Carminative and sudorific.*

This plant commonly grows wild, but is sometimes cultivated in gardens.

The whole' plant has a strong smell. It should be gathered just as the flowers are opening, when the sun is clear. Given in infusion, it is excellent for obstructions and diseases of females; also for hysterical complaints, fits, dizziness, and inflammation in the head. Cures difficulty of breathing and convulsions.

### **RAGWORT—*Senecio Jacobaea*.**

This plant is excellent as a gargle for sore and ulcerated mouths. It should be often applied.

### **PELLITORY OF THE WALL—*Parietaria Officinalis*.**



Pellitory of the Wall.

*Diuretic and nervine.*

This is a powerful diuretic, and is also a good nervine. It is excellent in dropsy, gravel, lumbago, and disease of the bladder. It is also good for water in the head and convulsive fits.

### **CUBEBS -*Piper Cubeba*.**

*Aromatic and diuretic.*

A powerful remedy in scalding urine. It is an excellent remedy for fluor albus or whites. A tea-spoonful in half-a-teacupful of cold water three times a day is the best way of taking it.

### **WOOD SAGE—*Teucrium Scorodonia*.**

*Diuretic and tonic.*

It is useful to remove obstructions from the kidneys and liver; it is also a good poultice, with equal parts of chickweed, pounded, for all kinds of indolent ulcers and boils, and is excellent for relax of the bowels.

### **AMERICAN HEMLOCK—*Pinus Canadensis*.**

*Diuretic and astringent.*

It is an excellent remedy for pains in the back and kidneys; is useful to

stop relaxes of the bowels, and makes a good wa<sup>h</sup> for old sores. The oil of American hemlock is a superior remedy in gastric irritation of the stomach, and allays vomiting in cholera, &c. The dose is from five to ten drops in sweetened water every ten or twenty minutes until relief is afforded.

### **BURNET SAXIFRAGE—*Pimpinella Saxifraga*.**

*Diuretic and astringent.*

Few remedies will excel this for gravel in the kidneys and stone in the bladder. It effects a gradual dissolution of the stone and the gravel.

### **DANDELION ROOT—*Taraxacum Officinale*.**

Diuretic, tonic, and laxative. It operates specifically upon the liver and kidneys in dropsical affections and inflammation of the bowels. The best way to obtain all the virtues of this plant is to dig up the roots from September to April. Wash them clean and dry them in a warm oven for several hours till all the water is gone, then place them on the oven plate over the fire, and keep moving them about till the colour becomes a very dark brown. Grind or crush, and use it as you would coffee, for which it makes a very good substitute, being similar in flavour and much more wholesome.

### **ANTI-SCORBUTICS.**

These are medicines which cure the scurvy. It was thought by the ancient writers that those were specifics for sweetening the blood, as they called it; and no doubt they were so to a certain extent, being composed of sanatory herbs made into a decoction and then drank. They are beneficial in eruptions of the skin; but it also must be remembered that they are beneficial only in proportion to the stimulating effect they produce upon the various organs of the body, so as to invigorate and give tone to the various organs which separate or, in other words, secrete the impurities from the blood, as perspiration, urine, bile, &c. What is it but the healthy action of all the organs whose office it is to separate and remove the waste matter it is constantly receiving? If persons are wishful to prevent those dreadful maladies which afflict the

human body—as scrofula—they must see that the digestive organs be in proper tone, for it must be borne in mind that the stomach is kitchen to the mansion, where all is prepared to be made into either good or bad blood. The skin must be kept clean, so that the waste matters shall not be taken up or re-absorbed and passed again into the blood, which will thus be surcharged and again impregnated with impurities which were intended to be passed off. through their natural channels. Active outdoor exercise is also requisite, in order that the lungs may be expanded, to draw in a larger quantity of oxygenated air, a tid at the same time throw out a larger quantity of carbon, which has done its office, and is now destined to support the vegetable world.

### **SARSAPARILLA, JAMAICA- *Smilax Ornata.***

*Alterative, demulcent, and deobstruent.*

Sarsaparilla root is regarded as a very valuable alterative, purifying the blood and producing changes in the system, without causing any sensible effect in any of the secretions. It has had a great reputation, and still has. It is used in the form of decoction, and generally in combination with other alteratives, in constitutional diseases, such as scrofula, chronic rheumatism, and diseases- of the skin. There are several varieties of the sarsaparilla; that which comes from Jamaica and Honduras are the best. A compound decoction of sarsaparilla is made in the following manner :—Take four ounces of, sarsaparilla, one ounce of sassafras, two ounces of guaiacum chips, and two ounces of liquorice root, add four pints of water, and boil down gently, covered up close, to two pints; boil over again, with the same quantity of water when the first is cleared off; then mix the two together. Dose : A wine-glassful four times a day for any of the diseases above named.



Sarsaparilla.

Sarsaparilla differs very widely in quality; the kind which has a reddish brown bark is much better than any of the others, and is sold in the wholesale markets at double the price of the rest. When boiled it yields a very deep red, which looks glutinous with strength. A great quantity of the commonest and almost worthless kinds are sold at the present day, the lure being in many cases their low price; but persons who wish to spread the fame of the botanic system, and who regard it as their chief professional duty to restore their patients to health as speedily as possible—and such only should dare to practise the healing art—will shun the use of such

worthless ingredients in their medicines.

### **BURDOCK ROOT—*Arcticum Lappa*.**

*Anti-scorbutic and diuretic.*



Burdock.

This valuable plant is useful for the diseases named under the head of "Sarsaparilla," with this difference—it is a more powerful diuretic, and consequently more beneficial in diseases of the kidneys. A very useful medicine for scrofula is composed as follows :—Two ounces of yellow dock, two ounces of burdock root, two ounces of slippery elm bark, and half-an-ounce of mezereon root. See

directions (under Scrofula).

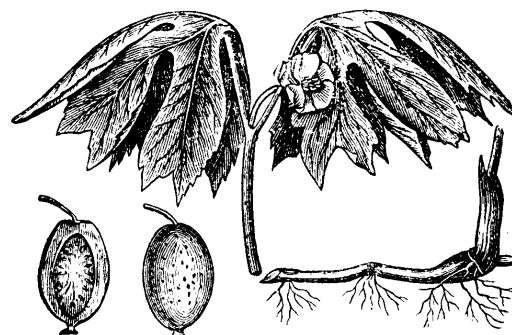
### **BURDOCK SEEDS— *Arcticum Lappa*.**

*Diuretic, nervine, and tonic.*

A strong decoction of the seeds is excellent in inflammation of the kidneys and bladder. It is a good nervine, and is a useful remedy for convulsions, fits, epilepsy,, and spasmodic affections.

### **AMERICAN MANDRAKE— *Podophyllum Peltatum*.**

Antibilious, purgative, and hydragogue. We have found this root invaluable in many inveterate cases of chronic disease, such as scrofulous, bilious, and dropsy. The analysis shews the root to contain a gum, starch, albumen, gallic acid, fixed oil, potass, lime salts, and resin Podophyllum, the active principal of mandrake. We consider the root of great service in incontinence of urine, for which disease it seldom fails to give immediate relief. We have cured persons considered hopeless, after the physicians have put them through a course of their medicine, by giving four pills per day, made of mandrake and cayenne, three grains each. Dr. Beech, after a very high commendation of its great success in a variety of complaints



Podophyllum.

as above named, gives this recipe for pills :—Take half an ounce of extract of mandrake and quarter of an ounce of cayenne pepper, mix with mucilage of gum arabic sufficient to roll in common-sized pills. Dose : Three or four every night, or sufficient to regulate the bowels. Dr. Beech also gives the following as a compound powder of mandrake:—Quarter of an ounce each of mandrake, spearmint, and cream of tartar, mixed. Dose : A teaspoonful in treacle, or in a teacupful of hot water, sweetened, once or twice a day.

### **CLEAVERS—*Gallium Aparine.***

*Anti-scorbutic and diuretic.*

Is a small succulent plant with a tender procumbent, retrose-prickly stem, grows from two to six feet high in moist thickets, and along the banks and borders of meadows. The leaves are one to two inches long, narrow, rough on the margin and tapering to the base, the flowers are small and white, blooming from June to September. It is a valuable diuretic, useful in many diseases of the urinary organs, gravel, and dropsy, inflammation of the kidneys and bladder, scalding of the urine, and all cases attended with febrile excitement.



Cleavers.

Water, cold or warm, extracts its virtues, but boiling destroys them entirely. An infusion may be prepared by steeping two ounces of the dried plant in a pint of cold water five or six hours, and from two to four ounces may be taken three or four times a day. The expressed juice, in doses of from one to four teaspoonfuls three times a day, has been successfully used in several forms of eczema and skin diseases. The green herb, made into ointment with vaseline, is useful for reducing hard lumps in the glands of the neck and breast, taking also the expressed juice internally, or when the juice cannot be procured taking the cold infusion as described above.

### **FLUELLIN—*Linaria Vulgaris.***

Fluellin or yellow toadflax bears a strong resemblance to the snapdragon (*Antirrhinum*), and in country places is often called wild snapdragon. The expressed juice applied externally, and taken internally, is said to be good for cancerous ulcers. Salmon in his herbal tells of a patient whose nose was almost consumed with an eating canker



Fluellin.

which was entirely cured by the juice of this plant. (See Fluellin Ointment.)

### **PIPSISSEWA, or PRINCES' PINE—*Chimaphila Umbellata*.**

*Anti-scorbutic and diuretic.*

It is an excellent remedy for scrofula and scurvy; it is also highly beneficial in cancers, tumours, rheumatism, dropsy, and diseases of the urinary organs. It is better to combine it with other articles. The most convenient form to take it is in powder; small teaspoonful doses in hot water two or three times a day.

### **SASSAFRAS—*Sassafras Officinale*.**

*Anti-scorbutic, alterative, stimulative, tonic, and aperient.*

The chips have the same properties as the bark, but are not so powerful. Sassafras is useful in rheumatism and all eruptive diseases. Aged people troubled with rheumatism will find it a useful drink—an infusion of the bark being drank instead of the common tea. The essential oil will often relieve the toothache.

### **PIMPERNEL—*Anagallis Arvensis*.**

*Anti-scorbutic and antiseptic.*



Pimpernel.

The Germans esteem it invaluable in hydrophobia. It is good in mortifications and all contagious diseases. It cures the bites of venomous snakes, mad dogs, and all wounds, running ulcers, and pestilential fevers. Drink half a teacupful of the boiled liquor four times a day, and poultice the wounds with the herb. The juice of the herb is good dropped in the eye to clear the sight, and remove cataract from the eye.

### **QUEEN'S DELIGHT, *Stillingia Sylvatica*.**

*Alterative and cathartic.*

It is an invaluable remedy in leprosy, ulcers, and all eruptive diseases.

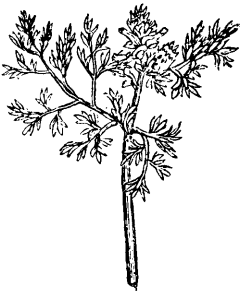
## YELLOW DOCK ROOTS—*Rumex Crispus*.

*Astringent and anti-scorbutic.*

There is no plant more common in England than this, which is known by every man, and there are few herbs superior to it for scrofulous diseases and itching of the skin, or eruptions of every kind. Take a Turkish bath, or wash the skin every night with soap and water, then wipe well with a dry towel, and foment with the following :—Boil three ounces of the root in two pints of water and foment with it; after you have used this, if not effectual, use the oil tincture. We have known great numbers cured with them or the itch ointment. All the dock roots are beneficial in eruptive diseases. An anti-scorbutic beer may be made by taking one quarter pound of the roots, two ounces of the seed of burdock, two ounces of cleavers, two ounces of ginger root, and half an ounce of senna; boil twenty minutes in two gallons of water; strain and work in the usual manner.



Yellow Dock.



Fumitory.

## FUMITORY—*Fumaria Officinalis*.

Anti-scorbutic. A very useful plant in all cutaneous diseases and scurvy. Effectual for the liver and jaundice. We have used it for all breakings out of the skin, and find it a splendid remedy.

## WOOD SANICLE, *Sanicula Europaea*.

Anti-scorbutic. For the cure of scrofula, ulcers, tumours, and all manner of breakings out. For scurvy it is all but a specific, and will cure ulcers in the mouth and throat. To drink the tea from the herb, and gargle the throat or mouth with the juice or decoction of the herb, is the best way of using it. The Author cured a young man, about 26 years of age, of running sores all over his body, who was given up as incurable. Such was the putrid state of his system that he lost one-half of the lower jaw with half of his teeth. He drank a strong decoction of this herb with the decoction of sarsaparilla, and was cured in four months.



Wood Sanicle.



## **MEADOW FERN BURRS, or SWEET GALE— *Myrica Gale*.**

*Aromatic and alterative.*

This is one of the best external applications in itch and troublesome humours or eruptions. The decoction, sweetened with honey, and a wineglassful taken three times a day is good for the above complaints.

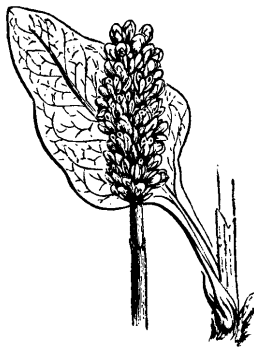
## **ASTRINGENTS.**

Medicines which render the solids denser and firmer by contracting the fibres. They have a tendency to lessen excessive discharges, and by causing greater depression of the nervous fibres lessen a morbid sensibility and excitability; hence they tend directly to restore the strength when impaired by these causes, employed in the form of a poultice, they have a tendency to dry and shrivel up the skin, and for that reason should not be employed as poultices where it is necessary to promote suppuration and hasten the discharge of matter. Cold is a powerful astringent, causing a contraction of the vessels on the surface of the body, and thereby producing paleness and suppression of perspiration. Astringents and jellies, or other gelatinous substances employed to nourish the sick, should not be taken into the stomach at the same time, as the tannin of the astringents combines with the gelatine, and forms a solid indigestible mass. Vegetable astringents may be properly termed detergent or cleansing medicines, for they have the effect of cleansing the inner or mucous coat of the stomach and bowels; hence the great value and importance of this class of remedies. For example, the morbid substance which collects on the tongue and roof of the mouth in fevers, and is present in the morning on rising from bed, particularly if the individual has been indulging in a late supper or spirituous liquor, is effectually detached by a gargle of some astringent tea; and it is by a similar way that the astringent medicines act on the mucous membrane of the stomach and bowels, removing its morbid and vitiated secretions and enabling it to perform its functions in a natural and healthy manner. The word canker is used freely in some botanic works, and the term canker is not understood by many who read it. Canker signifies anything that corrupts, corrodes, or destroys; therefore the anti-canker medicines are the astringents. It is well to drink a tea, such as bayberry, before taking an emetic, in order to detach the

vitiated matter from the mucous coat of the stomach previous to vomiting. Astringents are useful in haemorrhage from the stomach, lungs, and bowels, and are indispensable in diarrhoea and dysentery, and should be used in combination with some stimulants, as cayenne or ginger. In many diseases they are specially beneficial, as will be shown in their proper place.

### **BLOOD WORT—*Rumex Sanguineus*.**

The root and herb are the parts used. It will cure bloody fluxes, spittings of blood, overflowing of the menses, violent purgings, and is good for the whites. Make it and take it as any other herb.



Bistort.

### **BISTORT—*Polygonum Bistorta*.**

*Astringent.*

Is one of the most powerful astringents in nature. It is good for all bleedings, whether external or internal; it is useful in diabetes, in conjunction with tonics. The decoction is also employed as an astringent injection in fluor albus and gleet. It makes a good wash for running sores.



Tormentil.

### **TORMENTIL—*Potentilla Tormentilla*.**

*Astringent.*

This is very useful in all classes of bowel complaints, cholera, dysentery and diarrhoea attendant on consumption. It is the very best remedy in use for bloody flux. Take one ounce of the root bruised or in powder; pour on it one pint of boiling water. Take half a cupful of the clear fluid, as warm as convenient, in a severe case, every hour till there are signs of convalescence. It will often cause a free perspiration. It makes a good wash for sores.

### **BAYBERRY—*Myrica Cerifera*.**

*Astringent, stimulant, and deobstruent.*

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Bayberry.

Is decidedly the best cleansing medicine ever discovered. It makes a good gargle for putrid sore throats. When taken inwardly it produces a stimulating effect upon the mouth, and leaves it clean and moist; it cleanses the inner coat of the stomach; is a valuable medicine in diarrhoea and dysentery; and a sovereign remedy in scrofulous ulceration, used in the form of poultice. The wax which is found upon the berries makes a valuable ointment for all eruptions of the skin. It is the principal ingredient in our composition powder.

### **SUMACH (Berries and Leaves)—*Rhus Glabra*.**

*Astringent and diuretic.*

Sweetened, these make a pleasant drink in fevers and an excellent gargle for sore throats, especially after mercurial salivation. They are also good for strangury, or stoppage of the urine.

### **OAK BARK—*Quercus Robur*.**

It is a good astringent, and useful for bowel complaints and cholera. It is also one of the best remedies known for inflammation of the eye for young or old. Make as follows :—One ounce of oak bark, one ounce of red raspberry leaves; boiling water two pints; let it stand half-an-hour, clear, and bathe well with the liquor very often in the day, till well.

### **CUDWEED—*Gnaphalium Germanicum*.**

A white cottony plant known in some country places as cotton weed. Has long, narrow leaves, with yellowish flowers; grows on waste, gravelly soil; and flowers from July to September. It is a useful herb, which has been much neglected of late years. Pliny extols it as a sovereign remedy, and says it will cure bloody flux and all inward bleeding, quinsy, and mumps, or inflammation of the parotid gland. It is also used for fluor albus or whites, and will speedily and safely stay excessive menstruation. As a gargle it is useful in cases of ulcerated sore throat. It yields its virtues to boiling water, and may be prepared with one ounce of the herb to a pint. Dose :—Two to four ounces three times a day.

## WHITE POND LILY ROOT—*Nymphoea Odorata*.

*Astringent, pectoral, and emollient.*

This root is useful in all diseases of the bowels, and is excellent in fluor albus, or whites.

## CRANESBILL—*Geranium Maculatum*.

*Astringent.*



Cranesbill.

Cranesbill, known also as herb robert and alum root, grows usually from one to one-and-a-half feet high, in thickets, hedgerows, and shady banks; having slender, wiry, straggling stalks, tinged with crimson, with shining green leaves; flower red, with whitish streaks. It flowers throughout the summer.

The herb and root are both used in medicine, the latter being preferred. It is a powerful astringent, and may be used with safety and confidence in dysentery, diarrhoea, cholera infantum or summer complaint, hemorrhages from the lungs, leucorrhoea, and has proved highly beneficial in some cases of diabetes. It has a peculiar power of stimulating and contracting the capillary vessels; and, unlike most astringents, it promotes, instead of suppresses, the secretive power of the mucous surfaces. A strong decoction of the root, to which may be added a little nutmeg, cloves, and cinnamon, and sweetened with sugar, may be taken three or four times a day. It forms an excellent gargle in cases of thrush, sore mouth, and ulceration of the throat.

## RED RASPBERRY LEAVES—*Rubus Idaeus*.

*Astringent and tonic.*



Red Raspberry Leaves.

The red raspberry grows wild in mountainous woods, and is common to most parts of the country. Its prickly stems are erect, round, from three to four feet high; leaves are pinnate, of three or five leaflets, dark green on the upper surface, white and cottony beneath. Flowers in June, bears a delicious red fruit for which it is cultivated

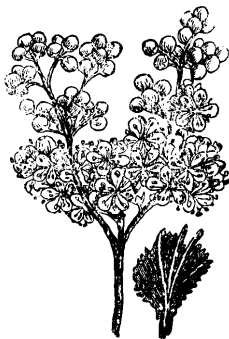
and brought to great perfection.

The leaves and roots are the parts used. A strong infusion is useful in looseness of the bowels and summer complaint of children; it is an excellent remedy in painful and profuse menstruation, and to regulate the labour pains of women in childbirth. A teacupful of strong red raspberry leaf tea, in which the juice of an orange has been pressed, taken three times a day during the last month of pregnancy, will prevent all pain, and will render labour easy when the hour of parturition has arrived.

### **BLACKBERRY LEAVES—*Rubus Villosus*.**

Mild astringent tonic, and a pleasant drink for looseness of the bowels in children.

### **MEADOW SWEET—*Spiraea Ulmaria*.**



Meadow Sweet.

*Astringent and sudorific.*

This plant grows in moist meadows, with yellowish white sweet-smelling flowers. It has been found useful in fevers, dysenteries, diarrhoea, and fluxes-of all kinds. An infusion of the leaves and flowers, in proportion of one ounce to a pint of boiling water. Dose :—One wineglassful every two hours.

### **GUM CATECHU—*Uncaria Gambler*.**

Astringent and tonic. The extract of the leaves and wood of *Acacia Catechu*, a stout climbing plant growing in the Malay Archipelago. It is a strong astringent to all mucous surfaces, and is beneficial in diarrhoea, cholera, and chronic catarrh. Ulceration of the mouth, elongation of the uvula, spongi-ness of the gums, cracked and sore nipples may be cured by painting the tincture on two or three times a day. The medicinal dose of the powder is ten to thirty grains. It is best used in conjunction with other remedies. See Anti-Cholera Powder and Astringent and Diarrhoea Powder.

## VERMIFUGES, or ANTHELMINTICS.

These are remedies which destroy or expel worms.

### WORMSEED—*Artemisia Maritima*.

*Vermifuge and aromatic.*

These contain a volatile oil, which is considered by some to be a specific for worms. Eight drops of the oil, given twice a day or according to age, will generally have the desired effect; or it may be given in powder, from half to a teaspoonful, two or three times a day, in treacle.

### WORMWOOD—*Artemisia Absinthium*.



Wormwood.

Stimulant, tonic, anthelmintic, and narcotic. A strong-scented herb, with hairy or downy stalks, leaves bipinnatifid, flowers dull yellow. Used in jaundice, dyspepsia, and worms. As a tonic it exercises a specific action over the nerves of nutrition; hence it is of value in all conditions of debility; it promotes the appetite, and increases the assimilation of the food. Its narcotic action renders it valuable for the destruction of worms in the alimentary canal. It is also a valuable fomentation herb, and in conjunction with marsh mallows, ragwort, poppy heads, and hops, will be found useful wherever

hot fomentations are indicated, as inflammation, painful swellings, quinsy, and neuralgia, Dose :—Half a wineglassful of the infusion taken three times a day, and an active purgative taken every second or third morning, will in general restore the patient troubled with worms.

### MALE FERN—*Aspidium Felix Mas*.

This is an old remedy for destroying tape-worms, and is good as a vermifuge. It is found to be efficacious taken in teaspoonful doses three times a day, and a brisk purge of senna and ginger every other morning. The oil of male fern is most to be depended on to expel tapeworms, and is, as a general rule, almost certain to be successful in a few days, without any danger. The dose is thirty drops in a tablespoonful of warm water, sweetened, to be taken night and morning, fasting. It must be borne in mind, when taking medicines of

this character, that the food must be light and suppers avoided.

**CUSSO (KOUSSO)-*Brayera Anthelmintica*.**  
(THE NEW REMEDY FOR THE TAPE-WORM.)

This is the most effectual as well as the safest remedy for the expulsion of the tape-worm from the human system ever made known to the public. The Authors have used it extensively from its first importation from Abyssinia, and with great success. It rarely fails to cure in two or three days. The dose of the powder is four drachms, which is to be macerated in about three gills of warm water for fifteen minutes. This infusion, with the powder suspended in it, is taken in three doses, quickly following each other. We recommend that lemon juice be taken freely before and after the cusso.

**KAMALA—*Mallotus Philippinensis*.**

A remedy highly recommended for the expulsion of that monster of the worm species. In searching over a number of volumes, both old and modern, we find no mention of it. We have prescribed it, and are satisfied with the good results. We now recommend the above-named remedies as three of the best ever published for the destruction of the tape-worm. Dose for those over twenty years, forty grains, or a teaspoonful in half a small teacupful of lime water, with a drop of essence of lemon, fasting in the morning.

**ARECA NUT—*Areca Catechu*.**

This is one of the best-known medicines for worms in dogs. A teaspoonful grated from the nut, and given with a little meat, will bring them away in a few hours; it is also good for cattle. If you can get the nut already powdered it will be the best. Take for cattle one table-spoonful in a quart of gruel once a day.

**NERVINES.**

Nervines are medicines which have the effect of composing or tranquilising the nerves, without impairing or deadening sensibility as is the case with narcotics, such as opium, morphine, and stramonium;

these impair the functions of the brain, as well as the whole nervous system, and the patient becomes stupid or insensible, sinking into a dull and heavy sleep, and he wakes, if the poison does not prove fatal, and finds himself with headache, tremors, nausea, parched tongue, and a dry and hot skin. The sanatory nervines which we use and recommend produce none of these effects, but invigorate while they soothe, so that there is scarcely a disease in which they may not be used with advantage.

### **SCULLCAP—*Scutellaria Lateriflora.***

*Tonic, nervine, and anil-spasmodic.*



Scullcap.

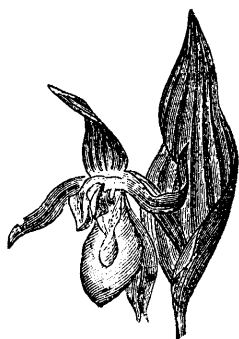
This is one of those valuable agents so often recommended for the tic-doloureux. Scullcap is said to contain an essential oil, chlorophyll (a peculiarly volatile matter), albumen, chloride of soda, and other salts. Dr. Mattson mentions the case of a merchant who was unable to hold a pen; he drank a pint of the tea at night on going to bed, and in the morning he was perfectly calm and able to write, and he continued to use the tea with good results. We have used it with good effect in delirium tremens, fits, convulsions, St. Vitus' dance, and all diseases arising from nervous excitability. Pour three

gills of boiling water on one ounce of powder, and let it clear; take a wine-glassful three times a day.

### **MAPLE BARK—*Acer Rubrum.***

*Tonic and nervine.*

The decoction of this bark strengthens the liver, and is good for inflammation of the spleen.



Lady's Slipper.

### **AMERICAN VALERIAN; or LADY'S SLIPPER —*Cypripedium Pubescens.***

*Tonic, nervine, stimulant, and anti-spasmodic.*

Lady's slipper is a good nervine; and as it possesses no narcotic properties, it may be used freely, without



apprehension of danger, in all nervous diseases, such as nervous headache, epilepsy, delirium tremens, restlessness, and low fevers; having the effect to quiet the nerves, allay pain, and promote sleep. Dose, same as scullcap.

### **ENGLISH VALERIAN ROOT— *Valeriana Officinalis*.**

*Nervine, anti-spasmodic, stimulant, tonic.*



English Valerian.

Valerian is employed in epilepsy, chorea, hysteria, delirium tremens, dysmenorrhoea, and sleeplessness. It is very similar in its properties to the American Valerian, and may always be used instead of it. It is especially useful in cases of nervous derangement, especially for nervous females, in hysterical, restless, and irritable conditions. Dose: Of an infusion of the root, one or two wine-glassfuls; of the tincture, 20 to 30 drops in sweetened water three or four times a day.

### **ASAFETIDA—*Ferula Foetida*.**

*Expectorant, stimulant, and anti-spasmodic.*

This is a gum-resin extracted from the root of a shrub which grows in Afghanistan and the Punjab. It has been used as a valuable and pure tonic and for a weak state of the stomach from time immemorial. It is very useful in hysteria, colic, and spasmodic asthma. A case of spasmodic asthma, of several years' standing, which had resisted the treatment prescribed by other practitioners, was cured by administering asafetida in the form of a large pill, three times a day, in addition to the following expectorant:—Squills, in powder, 30 grains; gum ammoniac, 1/4 ounce; lobelia seed, 30 grains; made into 30 pills, with treacle, of which the patient took one or two twice a day, and smoked stramonium leaves instead of tobacco, until a slight giddiness was felt. (See Nervine Pills.)

## **PURGATIVES.**

Purgatives are agents which quicken the peristaltic motion of the bowels—first, by stimulating the muscular fibres, and the contents of the bowels are quickly discharged; second, by stimulating the exhalant vessels terminating in the inner coat of the intestines and the mouth of the excretory ducts of the mucous glands, by which an increased flow of serous fluids takes place from the former and a more copious discharge of mucous from the latter, the effect of which is to render the foecal matter thinner and more abundant; third, by stimulating the neighbouring viscera, as the liver, pancreas, &c., so as to produce a more copious flow of their secretions into the intestines.

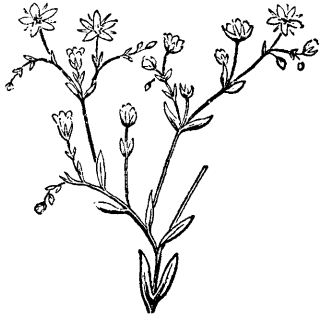
### **RHUBARB (Turkey, East India, and English)— Rheum Palmatum.**

This is a mild cathartic and somewhat astringent tonic; as a cathartic it acts by increasing the muscular action of the intestines rather than by augmenting their secretions; it affects the whole intestinal canal, especially the duodenum. With its astringent properties it has gained the reputation of being a stimulant and carminative of the digestive organs. It also acts as a tonic on the stomach, improving the digestive organs and creating an appetite. Rhubarb is much used in infantile diseases, its mild tonic properties rendering it peculiarly applicable, especially when enfeebled digestion and irritation of the alimentary canal are present. In acute or chronic diarrhoea or dysentery, and in convalescence from exhausting diseases, where the mildest of other purgatives are apt to cause irritation, rhubarb is an appropriate medicine. The dose of the powder for an adult is from a quarter to half a teaspoonful, but this must be regulated according to circumstances.

### **ALEXANDRIA SENNA—Cassia Acutifolia.**

A certain and convenient cathartic, and may be used in all cases where a physic is required. The griping may be modified by adding ginger or cloves. Take one ounce of the leaves and a quarter of an ounce of ginger, pour over them one pint of boiling water, and let it cool. Dose :—One or two wineglassfuls at night.

## **MOUNTAIN FLAX—*Linum Catharticum*.**



Mountain Flax.

Cathartic, tonic. Is a small annual plant, bearing very small white flowers, growing in dry pastures and on moorlands. Known also as purging flax. It has a pleasant, bitter taste; its active principle is most abundant just after the flowers have fallen, at which time it should be gathered for use. It may be employed for the same purpose as senna, especially in the constipation which accompanies gravel, rheumatism, and dropsy. It yields its virtues readily to water. The proportion would be one ounce to a pint of boiling water; infuse, and take one to two wineglassfuls twice a day.

## **ALOES SOCOTRINE—*Aloe Perryi*.**

This is the best kind used medicinally; it is a warm, stimulating purgative, operating with force upon the large intestines. It is useful to promote the menses, and there is scarcely a purgative pill made without it. (See Pills.)

## **BUTTERNUT—*Juglans Cinerea*.**

Is a gentle purgative, and has the good property of not binding after it has operated. It is a good medicine for worms, and may be made either in syrup or taken as pills. Dose : Four large-sized pills at night for an adult. Syrup : Take half an ounce of extract, four ounces of sugar, and ten ounces of boiling water; mix well. Dose: One tablespoonful twice a day. Children according to age.

## **INJECTIONS, OR ENEMAS.**

These are liquid preparations which are thrown into the rectum with a syringe. They are invaluable in various forms of disease, but owing to mock delicacy they have not been so much used as they ought. Injections are invaluable agents where the powers of life are so much impaired that a rational fear is entertained as regards the administration of cathartics by the mouth. We can speak from our own experience, and with confidence say that we have seen diseases of the

most malignant character relieved, and in some instances cured, where medicines in any other form were inadmissible, such as lock-jaw, vomiting, inflammation of the bowels, colic, fits, fevers, diarrhoea, dysentery, and putrid sore throats, where the patient was unable to swallow. Injections composed of bayberry, cayenne, and lobelia are useful in cases of suspended animation. We have seen the good effects of injections in inflammation of the lungs, especially in children. No family should be without an enema syringe. The dose of liquor for an adult is about a pint, and for children in proportion. The various applications of injections will be named in their proper place.

## **EXPECTORANTS AND DEMULCENTS.**

Expectorants are medicines which promote the expulsion of mucous from the trachea or windpipe, or any other accumulation of morbid matter which may have fastened upon the lungs. Emetics may be classed under this head, for by their action upon the lungs, through the medium of the stomach and diaphragm, they effectually unload the windpipe and bronchial tubes of their vitiated secretions. Demulcents are those substances which develop, or, in other words, cover, surround, and guard, acrid matter, and cover the surfaces that are too sensible to external impressions. They are useful in diarrhoea and dysentery, and in the form of poultices; they are also beneficial in coughs, irritation of the lungs, or inflammation of the urinary passages.

### **HOREHOUND—*Marrubium Vulgare.***

*Expectorant, tonic, stimulant, and diuretic.*



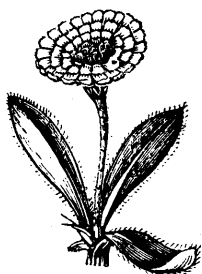
Horehound.

Has hoary, downy stem, with spreading branches; leaves round, ovate, crenate. This old world remedy still retains its reputation, and will prove beneficial in coughs, colds, asthma, hoarseness, and all pulmonary affections. Simmer four ounces for ten minutes in two pints of water; sweeten with honey. Dose : One wineglassful every three hours.

### **SKUNK CABBAGE—*Symplocarpus Foetidus.***

*Expectorant, nervine, and anti-spasmodic.*

Is a capital remedy in asthma, coughs, and catarrhal affections of the lungs; it also makes a good tea in fevers, combined with pleurisy root and lobelia herb, equal parts in powder. A small teaspoonful of this mixture, in warm water, sweetened, may be taken three times a day. It may be taken oftener if the fever is violent.



Mouse Ear.

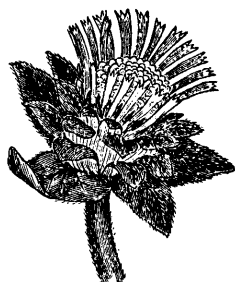
### **MOUSE EAR—*Hieracium pilosella*.**

*Expectorant, tonic, and astringent.*

This is a popular remedy in country places for whooping cough and croup; it is also useful in dry tickling coughs and affections of the lungs; it makes a good wash for old sores.

### **ELECAMPANE ROOT—*Inula Helenium*.**

*Aromatic, stimulant, tonic.*



Elecampane.

The root of elecampane is the part used. A stout herb; stems three to six feet high; leaves entire, large, woolly beneath; flowers yellow. Employed in chronic pulmonary complaints, dyspepsia, hepatic disorders, amenorrhoea, and dysmenorrhoea. It removes cramp, and has been found beneficial in convulsions, gout, and sciatica. It is said also to be useful in hydrophobia. Prepare and take as directed for horehound.

### **POLYPODY ROOT—*Polypodium Vulgare*.**

*Pectoral, demulcent, anthelmintic.*



Polypody.

A small, simply pinnatifid, evergreen fern. It is employed in hepatic and pulmonary diseases. American physicians speak highly of it as a remedy in incipient consumption, asthma, catarrh of the lungs, and for the expulsion of toenia and other worms. A fluid extract of the root is the best preparation; the dose, 20 to 30 drops in sweetened water three times a day.

## COMFREY ROOT—*Symphytum Officinale*.

*Demulcent, expectorant, astringent.*

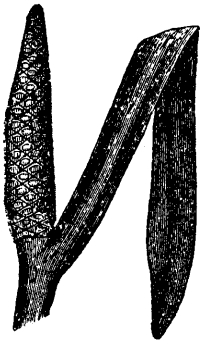


Comfrey.

Employed in pulmonary and scrofulous diseases, pneumonia, diarrhoea, dysentery, and leucorrhoea, or whites in females. It is best used in combination with other remedies, the following being a good formula for the above-named affections :—Comfrey root, two ounces; white pond lily root, cudweed, stinking arach, each one ounce; ginger root, half an ounce. Simmer the whole in two quarts of water down to one quart; strain, while hot, upon two nutmegs powdered fine, half a teaspoonful of cayenne, and half a pound of lump sugar. Dose: One wineglassful four times a day.

## SWEET FLAG—*Acorus Calamus*.

*Stimulant, carminative, tonic.*



Sweet Flag.

Useful in inflammation of the stomach and bowels; to expel wind; and relieves colic; and in all cases of weakness, with a flatulent state of the digestive organs, with loss of appetite. The following is a good combination for all the above-named affections :—Sweet flag root, two ounces; wild cherry bark, buchu leaves, fennel seeds, each half an ounce; cayenne, half a drachm. Prepared and taken as directed for comfrey root.

## MARSH MALLOW—*Althaea Officinalis*.

*Diuretic, demulcent, and emollient.*



Marsh Mallow.

A tall, handsome plant, with a pale rose-coloured flower, somewhat resembling the hollyhock, growing about marshy and wet places near the sea. The leaves, flowers, and root—chiefly the latter—are the parts used, in the form of decoction, making a thin mucilage. It is highly valuable in affections of the lungs, bowels, and urinary organs, especially in inflammations of the kidneys, bladder, and urethra, in retention of urine, strangury, and bleeding from

the urinary organs. The leaves make an excellent fomentation herb, and the powdered roots an excellent poultice for inflammatory swellings, bruises and burns.

### **SLIPPERY ELM—*Ulmus Fulva*.**

*Expectorant, diuretic, demulcent, and emollient.*



Slippery Elm.

The inner bark of a large tree growing in America, especially in the rich, moist soil of the Western States. It is a very valuable remedy, employed chiefly in mucous inflammation of the lungs, bowels, stomach, kidneys, and bladder, taken freely in the form of a mucilaginous drink. One ounce of the bark simmered slowly in two pints of water down to one pint. It is very beneficial in diarrhoea, pneumonia, pleurisy, dysentery, coughs, strangury, and sore throat. A tablespoonful of this powder, boiled in a pint of new milk, affords a nourishing diet for infants, preventing the bowel complaints to which they are subject. As a poultice it is far superior to linseed

meal, applied to ulcers, boils, and carbuncles.

### **BUTTER BURR ROOT—*Petasites Vulgaris*.**

This root is good for fevers, influenza, pleurisy, worms, obstruction of urine, and to promote menstruation.

### **GUM ARABIC—*Acacia Senegal*.**

*Expectorant, demulcent, and diuretic.*

This is used for various purposes, such as the making up of pills; it is good for diseases of the bladder and scalding of urine; it makes a good cough medicine. Take one ounce of gum, one ounce of Spanish juice; dissolve in 1 1/2 pints of water; then add one quarter of an ounce of cloves, half a teaspoonful of cayenne, and half an ounce of tincture of lobelia; take two tablespoonfuls three times a day.

### **GUM AMMONIACUM—*Dorema Ammoniacum*.**

This is a valuable expectorant. There are two kinds sold, but what is called the drop gum is the best. Aged persons will find this a good cough medicine. Take one ounce of gum, dissolve in 1<sup>^</sup> pints of warm water, clear the milky fluid from it, then add half a cup of raspberry vinegar; take one tablespoonful four times a day.

### **BALSAM OF PERU—*Myroxylon Pereirae*.**

This balsam possesses expectorant and stimulating properties. It is useful in all chronic affections of the bronchial tubes, as in catarrh, inflammation of the stomach and bowels, diarrhoea, dysentery, and leucorrhoea. Take twenty-five drops in a wineglassful of gum arable tea, sweetened twice a day.

### **BALSAM OF TOLU—*Myroxylon Toluifera*.**

This is very similar to that of Peru, and may be used for the same affections of the chest, in the form of syrup of Tolu. Dose : A tablespoonful three times a day.



# HEALTH.

Under this head the Authors have carefully classified a number of hints and directions on the Preservation of Health, Clothing, Diet for the Sick, Ventilation, the Skin, the Teeth, the Vapour Bath, the Process of Digestion, and the Circulation of the Blood. The limited space which is available for these important points has necessitated the adoption of a somewhat condensed style, in order to crowd in as much really useful and indispensable information as possible.

## PRESERVATION OF HEALTH.

A state of health consists in the different organs performing, in an easy and regular manner, all their proper offices. This state, on which our happiness depends, is the legitimate result of a correct mode of living. Persons who transgress the physical laws of their nature—it matters not whether man, woman, or child—may as well expect to breathe without air, or live under water, as hope to break nature's laws without incurring a penalty in the shape of disease commensurate with their breach of law. Ask the man who has not been free from pain or ailments for a series of years what he considers the best earthly blessing, and he will answer, Health. When deprived of this, all nature wears a gloomy aspect: the glistening sunbeams, the opening flowers, the rippling streams, the green-clad trees, or the soul-cheering notes of the feathered songsters have no charm for him; the aching head, the hacking cough, and the hectic flush, all admonish him that he must close his eyes on all things earthly. Then it is that he looks back on his misspent life with sorrow. The result of a violation of the physical laws of our nature is to produce misery and disease in proportion to the extent of those violations. Thousands there are at this moment rolling in wealth who would give a quit-claim deed of all their lands, and place themselves in the condition of a man who depends on his daily labour for the maintenance of his family, if they could only enjoy perfect health. If health be so valuable that the miser will pour out his gold, the epicure give up his sumptuous fare, and the young lady bid defiance to the life-destroying fashions of the age, in order that they may regain it when lost, is it not worth preserving? How, then, are we to preserve our health? The question is of more importance than many other of the great questions which are now agitating the world. Any question of enterprise, having for its object the accumulation of wealth, would

weigh as little in comparison with this as the bubble in the opposite scale to the mountain. It may be argued that health is a blessing conferred upon us by Divine Providence, and which He continues or destroys according to His will or pleasure, without any agency of our own. This doctrine has prevailed to an alarming extent, and has been sanctioned by those who profess to know more about the mysterious dealings of Divine Providence than they do of the physical laws of our nature. Is it not the height of injustice to charge upon Him whose tender mercies are over all the works of His hands our own folly? He has established certain unchangeable laws, by which all matter, whether animate or inanimate, is governed. Obedience to these laws secures to us health and all its blessings, with as much certainty as obedience to moral laws secures peace of mind. In order, therefore, to preserve health, proper regard must be paid to food, drink, clothing, exercise, pure air, and frequent ablution in cold water. On no one thing does perfect health so much depend as on the quantity and quality of our food. A great amount of disease is produced by improper mastication; yet, notwithstanding, the bulk of mankind swallow, half chewed and in large quantities, a heterogenous mass of food, consisting of beef, pork, butter, cheese, pastry, &c., loading the stomach, like a man filling his carpet bag, as if it never could be filled too much. For example, the good wife on a Saturday night (and we beg to say she does it out of tenderest regard to her husband, who has been working hard all the week), prepares for supper beef steak, onions, cheese, &c., and to give him strength for the next week's labour they wash it down with a pint of ale; thus they go to bed with loaded stomachs, when the digestive apparatus ought to be still, and give nature time to repair the waste of the body for the next day's labour. Sunday is a day indulged in bed; little exercise and stronger food are taken. Monday comes; they feel little refreshed by the rest they have had, have headache, weight at the stomach, and a variety of other symptoms; and thus it is—medicine is called into requisition to cure that which they have already created, namely, the first stages of disease. And as long as we transgress nature's laws, so long must we suffer the consequences which accompany debility and untimely death, in spite of physicians, doctors (regulars or irregulars), homoeopaths, hydro-paths, or botanists even. Such is the difference in the habits and constitutions of men, that no universal system of diet can be prescribed to the circumstances of all. A few simple rules should always be observable. Eat three times a day, and that moderately, and of such food as is easily digested, which should be well chewed, so as to be mixed with the saliva, this being the first process of digestion. The most wholesome food is unbolted wheaten bread, potatoes, rice, tapioca,

ripe fruit, and in general a vegetable diet; the best drink being cold water. The real object of eating should be kept in view, viz., to supply the body with a proper quantity of nutriment, according to the amount of exercise taken and the power of the digestive apparatus; and not to eat merely to gratify a depraved appetite. Parents should become acquainted with the physiological laws of their nature, and we hope the time is not far distant when it will become a part and parcel of the education of the rising generation. When the female portion of society understand their physical construction, then they will be able to bring up a better, stronger, and more healthy race, who shall become the fathers and mothers of the next generation, as well as prevent a large amount of the suffering they now endure.

## **CLOTHING.**

The principal object of clothing is to protect the body from cold, and therefore should be adapted to the climate, season of the year, and age. In England the cold chills of winter render it necessary to wear a strong flannel garment next the skin. Being a non-conductor of heat, flannel protects the body from taking cold in general. The use of strong soles on the boots keeps the feet warm, which is of very great importance to health, and acts as a protection against colds and coughs, the want of timely attention to which leads to consumption and a premature grave. The man or woman who has independence enough to dare to dress consistently and decently in defiance of the foolish and pernicious fashion, if holding a rank in society that gives them influence, will do much for the benefit of his or her race.

## **VENTILATION.**

We are well aware of the necessity for breathing pure air, and the agreeable freshness and reviving influence of pure morning air must convince us that a pure atmosphere is conducive to health; yet we carefully exclude the air from our houses as if its approach were noxious; intending to shut out the inclemency of the weather only, in order to guard ourselves from the external air, we hinder that renewal of the atmosphere which is necessary to prevent its becoming stagnant and unfit to support life. Few persons are aware how very necessary a thorough ventilation is to the preservation of health. We preserve life without food for a considerable length of time; but keep us without air for a very few minutes and we cease to exist. It is not enough that we

have air—we must have fresh air; for the principle by which life is supported is taken from the air during the act of breathing. One-fourth of the atmosphere is capable of supporting life; the remainder serves to dilute the pure vital air, and render it more fit to be inspired. Dr. Thomson thinks that we should not be far from the truth in supposing that the ordinary quantity of air contained in the lungs is 280 inches, and that there enter or go out at each inspiration, or expiration, 40 inches. Thus, supposing twenty inspirations in a minute, the quantity of air that would enter and pass out in this time would be 800 inches, which makes 48,000 in the hour, and in 24 hours, 1,152,000 cubic inches, and as the air enters into the lungs it is exposed to the action of the blood, which changes its purer part, the vital air (oxygen gas), into mixed air (carbonic acid gas), which is not only unfit to support animal life, but is absolutely destructive to it.

One hundred and fifty grains, by weight, of this poisonous ingredient are added to the air of a bedroom in one hour by a single sleeper—more than one thousand during the night. Unless there be a sufficient quantity of air to dilute this, or unless ventilation provide for a gradual removal of foul air while fresh comes to take its place, health must be seriously undermined. Dr. Hunter states, in his work on the " Diseases of the Throat and Lungs," that impure air alone will bring on consumption in the soundest constitution. The oxygen of the air we breathe regulates our appetites, and the chyle undergoes its last vital change in the lungs, and that change depends . on the perfect performance of respiration, and on a sufficient supply of pure air. When respiration is obstructed by disease, the appetite fails and the body wastes away.

An admirable provision of the great Author of nature is here visible, to prevent this exhausted and now poisonous air from being breathed a second time. While in the lungs the air receives so much heat as to make it specifically lighter than the pure atmosphere; it consequently rises above our heads during the short pause between throwing out the breath and drawing it in again, and thus secures to us a pure draught. By the care we take to shut out the external air from our houses, we prevent the escape of the deteriorated air, and condemn ourselves to breathe again and again the same contaminated, unrefreshing atmosphere.

Who that has ever felt the refreshing effects of the morning air can wonder at the lassitude and disease that follow the continued breathing

of the pestiferous atmosphere of crowded or ill-ventilated dwellings? A most melancholy circumstance occurred in the Black Hole of Calcutta. A vast number of prisoners were crowded so closely together that most of them died the same night; and during a storm on the English coast a few years since, more than sixty persons perished on board an emigrant ship in less than six hours for the want of this vitalizing air. It is only necessary to observe the countenances of those who inhabit close rooms and houses—the squalid hue of their skins, their sunken eyes and languid movements—to be sensible of the bad effects of shutting out the external air. The persons coming from the fresh air into a bedroom early in the morning, though the occupants may be cleanly and in perfect health, the sense of smelling never fails to be offended with the odour of animal effluvia with which the atmosphere is charged. It may be taken as a general rule that whatever produces a disagreeable impression on the sense of smelling is unfavourable to health. This sense was doubtless intended to guard us against the danger to which we are liable from vitiation of the atmosphere. If we have the same sense of high gratification from other objects, it ought to excite our admiration of the beneficence of the Deity in thus making our senses serve the double purpose of affording us pleasure and security; for the latter end might just as effectually have been answered by our being only susceptible to painful impressions.

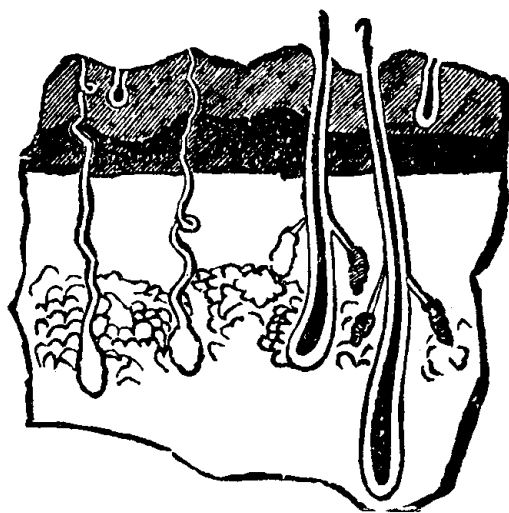
To keep the atmosphere of our houses free from contamination, it is not sufficient that we secure a frequent renewal of the air; all matter which can injure its purity must be carefully removed. Flowers in water and living plants in pots greatly injure the purity of the air during night, by giving out large quantities of an air (carbonic acid) similar to that which is separated from the lungs by breathing, which, as before stated, is highly noxious. On this account they should never be kept in bedrooms. There are instances of persons who, having slept incautiously in a close room in which there has been a large growing plant, have been found dead in the morning, as effectually as if there had been a charcoal stove in the room. A constant renewal of fresh air is necessary, for in all situations it is suffering either by its vital part being absorbed or by impure vapours being disengaged and dispersed through it. Ventilation, therefore, resolves itself into the securing a constant supply of fresh air. Rooms cannot be well ventilated that have no outlet for the air; for this reason there should be a chimney in every apartment, the windows should be capable of being opened, and that for several hours during the day, to carry off the animal effluvia which are necessarily being separated from the bedclothes, and which should be assisted in their

escape by the bed being shaken up and the clothes spread abroad, in which state they should remain as long as possible. The chimneys should not be stopped up with boards, but a current of air allowed to traverse the whole apartment. Dr. Reed, who was appointed to ventilate the Houses of Parliament, allotted to each member and officer ten cubic feet of air a minute, and did not consider the supply to be any more than adequate to their wants. If we refer back to the statistics of mortality in the workhouses of London about a hundred years ago, when the value of fresh air was not appreciated, not more than one child in twenty-four lived to be a year old; so that out of 2,800 received into them, 2,690 died yearly. But when the conditions of health came to be better understood, and an Act of Parliament was obtained compelling the parish officers to send the infants to nurse in the country, this frightful mortality was reduced to 450 annually. Thus we see the importance of having a regular supply of fresh air. It is better to spend our leisure time in the green fields than to be closed up in a small room, where a dozen more are sending up the noxious fumes of tobacco, and wetting their throats with that liquid which is drying up the juices of the body. We would not forget to mention the common practice of working men living near to their workshops, because they can jump out of bed into the workshops, and out of the workshops into bed. What pleasure is there to a man who carries on a life like this? Where is his enjoyment breathing an impure atmosphere over and over again? His system becomes emaciated, the juices of his body deteriorated, the circulation of his blood languid, and his sensibilities stunted. Is there any wonder at his being dull and restless, with no spirit or life within him, merely living because he must live? We hope that men and women will think for themselves, and take care of that which is more valuable than gold or rubies—health; and one way to do this is to drink in freely of that which changes the blood into red arterial blood, which is destined to make flesh, bone, and muscle—in fact, is the builder of every part and particle of the entire system. And if the blood be impure—and it cannot be otherwise if it be not vitalised—there cannot be a healthy action in the system; and one great means to accomplish this is to drink freely of the pure air of heaven.

## **THE SKIN.**

The skin is the external covering of the body, and consists of three layers, namely, the cuticle or scarf skin, the rete mucosum, and the cutis vera, or true skin, which is the innermost layer. The cuticle is that part

which is raised in a blister; it is void of blood vessels and nerves, and exhibits no sensibility; it separates in the form of scales after certain cutaneous diseases. It is filled with pores, some of which serve for the purpose of hairs, and others for the escape of perspirable matter. It is constantly wearing out, and is constantly renewed. It is thick on the palms of the hand and soles of the feet, particularly in the labourer, which is a contrivance of nature to defend the delicate parts beneath from the injury which they might otherwise receive; indeed, in every part of the body it serves as a protection to the true skin, and prevents the too ready absorption into the system of the deleterious substances with which it comes into contact. It is in the cuticle that corns are situated. The rete mucosum is the second layer of the skin, interposed between the cuticle and the cutis, and contains the colouring matter. It is black in the negro, yellowish in the mulatto, and white in those whose skins are of corresponding colour. The cutis, or true skin, is described by anatomists as consisting of dense fibres, intersecting each other in various directions, and leaving between them holes for the passage of the blood vessels and nerves, with which it is plentifully supplied; so numerous are they, in fact, that it is impossible to prick the skin with the finest needle without producing pain and causing a flow of blood within. There are 7,000,000 pores in the skin of the human body, each pore acting as a common sewer to throw off waste matter from the system. The following is a microscopic view of a very small portion of the skin :—



Certain little glands, called sebaceous glands, are placed, which open on its surface by minute orifices, and which secrete an oily fluid, by which the skin is lubricated and defended from the action of moisture. It is owing to this substance that water collects upon the skin in drops.

Besides the other uses of the skin, it is the test of perspiration, which serves many important purposes in the animal economy. This is of two kinds, insensible and sensible; it is insensible when it passes off in the form of an invisible vapour, and sensible when it collects on the surface of the body in the form of sweat. It keeps the skin moist and pliable, and separates from the blood the useless or worn out particles of matter with which it becomes charged in the round of circulation in the form of sweat. It regulates the temperature of the body in warm weather; an individual who perspires freely in summer is much less oppressed by the heat than one who does not perspire at all. The reason of this is that the surplus heat is carried off by the sweat, together with the exhalations from the lungs. So great is the influence of perspiration that Sir Joseph Banks and others have confined themselves for a considerable time in a room fifty degrees hotter than boiling water without experiencing any pernicious consequences. Experiments have been made to determine the amount of perspirable matter which passes off by the skin. Sanctorius, who was the first labourer in the field of inquiry, came to the conclusion that about two-thirds of the food and drink taken into the system is eliminated from it through the medium of the skin, while the remaining third passes off by the bowels, lungs and kidneys. It will be seen if the insensible perspiration is arrested for a day or two, that the blood will be charged with impurities to an almost incredible amount, and disease in some form or other will be the natural consequence, the skin being endowed with the important office of removing waste matter from the system. "We see," says Dr. Coombe, "why checked perspiration should prove so detrimental to health"; and hence his remark that it is a powerful cause of disease and death. "People know the fact," he continues, "and wonder it should be so; that cold applied to the skin, or continued exposure to a cold atmosphere, or any feeling that arrests the passing of insensible perspiration, produces a bowel complaint, inflammation in the chest, or some other internal organ. But were they taught, as they ought to be, the structure and uses of their own bodies, they would rather wonder that it did not always produce one of these effects." Dr. Erasmus Wilson has made some important discoveries as to the functions of the skin. He says :

"The expiring organs of the skin are a number of small tubes, a quarter of an inch in length; these are called pores of the skin." The number of these little tubes contained in a superficial square inch of skin has been counted under a powerful microscope; and by multiplying the number of square inches of the skin on the whole body by the number of tubes contained in one square inch, if they were joined end to end they would



make one tube 28 miles in length. When the functions of the skin are imperfectly performed, the whole body suffers; the heart, liver, lungs, bowels, stomach, the brain, nerves, are imperfectly nourished; and then vitality is oppressed and weakened by the noxious matter with which the blood is loaded; thus a weight is placed on the strings of life. By restoring the functions of the skin this weight is taken off. We cannot do better than quote a paragraph from Dr. Johnson's " Domestic Practice." He says, "I think there can be no doubt that medical men have committed a great error in so totally neglecting the several functions of the skin as the means for expelling deleterious matter out of the body. I say several functions, for they are many. Not only do solid and fluid matters escape through the skin, but it also throws out gaseous matters, which being retained in the system are equally poisonous as either solids or fluids. While they have attached an absurd and exaggerated importance to the secretions from the bowels, amounting only even in health to some four or five ounces daily, they have awarded no importance at all to the secreted matters and fluids through the skin, which in health will often amount daily to one or two pounds. Constipation of the bowels seems to swallow up their whole attention so that they have none left for the constipation of the skin. "Do your bowels act properly?" is a question unfailingly and earnestly put by every medical man to every patient. "Does your skin act properly?" is a question which few ever dream of asking." There is a great necessity for keeping the pores open by keeping the skin clean, for cleanliness is next to godliness. If this was attended to more than it is at the present time, and persons would but wash down the first thing in the morning with cold water, or have a shower bath, and rub well after with a coarse cloth or flesh brush to bring back a reaction there would not be the need of medical men to such an extent; for this process strengthens the nervous system, and wipes off the perspired matter which has passed off from the body during night's sleep and which if not washed off is reabsorbed and taken into the system; and the blood is thus surcharged with a poisonous matter which if it remains in the system is productive of many diseases. We hope the time is not far distant when public washhouses will be established, which to the industrious classes would be invaluable, and would be both as ornamental and important as public dispensaries and infirmaries, as they would be found powerful agents in preventing disease among the working classes by removing from the generally crowded habitations of the poor the bulk of the cleansing duties of the household, and subjecting the clothing to the healthy, purifying action of pure air in the drying process, after the accumulated dirt and perspired matter have been washed off.

## **VAPOUR AND TURKISH BATHS.**

### **VAPOUR BATH.**

The vapour bath has been extensively used in many of the European countries for several centuries. It is said that the Finlanders will remain for half an hour in vapour at 167° Fahrenheit, and then pass immediately into the freezing air, without experiencing the slightest inconvenience. Dr. Bell, in his work on baths, observes that if travellers happen to arrive at the villages of these people while they are engaged in bathing, they will go at once to assist in taking care of the horses, with only a slight covering; while the strangers, notwithstanding they are wrapped up in furs, sit shivering in the cold. The Russians make use of the vapour bath at least once a week, and sometimes much oftener. They vary the temperature from 120° to 160°, and remain in the bath an hour or two. Then they let down a shower of cold water upon them from the ceiling by means of a cord and valve. " This," says Dr. Frail, in his account of the Russian vapour bath, "is highly exhilarating and refreshing. They are in the habit of leaving the vapour bath while in a profuse perspiration, and rolling in the snow; or if a river happens to be near they plunge into it entirely regardless of the severity of the weather. Instead of being injured by this practice, they are rendered more vigorous and healthy; and it cannot be denied that they are more free from rheumatism and consumption than the people of more highly favoured climates." "The North American Indians," say Lewis and Clarke in their travels, "know the effects of the vapour bath. It is very uncommon for a man to bathe alone; he is accompanied by one or more of his acquaintances; and it is so essentially a social enjoyment, that to decline going into the bath, when invited by a friend, is one of the highest indignities that can be offered. They construct a bath by bending willows and covering skins over the top of them; the patient sits in this until, by means of heated stones and water, he perspires sufficiently." Lewis and Clarke mention a remarkable cure which was performed with a vapour bath during their expedition. One of their men had so great a weakness in his loins that he could not walk upright without extreme pain; they had exhausted the resources of their art upon him in vain; and at length, at the suggestion of an Indian hunter, they placed him in a vapour bath, with the steam as hot as could be borne; in twenty minutes he was taken and plunged twice in rapid

succession into cold water, and then returned to the bath. During all this time he drank freely of mint tea; and at the end of three-quarters of an hour he was again withdrawn, carefully wrapped, and suffered to cool gradually. The morning after he was able to walk and nearly free from pain.

Dr. Coombe, in his work on Physiology, remarks that the vapour bath is attended by the very best effects, particularly in chronic ailments; and there can be no question that its action is chiefly on the skin, and through that medium of the nervous system. As a means of determining to the surface, promoting cutaneous exhalation and equalising the circulation, it is second to no remedy now in use.

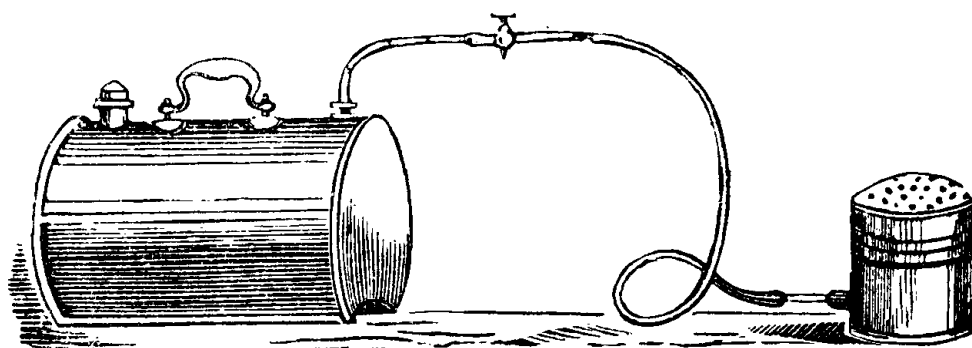
The fact that one-third of our food and drink passes out of the body through the pores of the skin, leaving only two-thirds to be discharged through other channels, is sufficient evidence of the value of the vapour or Turkish bath as a remedial agent. It determines the blood to the surface of the body, warms and invigorates the whole system, and produces a natural perspiration, which serves to remove from the circulating fluid the various impurities with which it is loaded. It communicates heat or caloric to the blood, rendering the circulation more active and vigorous, and it is on this account that it possesses such efficacy in suspended animation and the low stages of disease. In scrofulous affections, fevers and inflammatory attacks, the vapour and Turkish baths are particularly serviceable, a short time being sufficient, in conjunction with stimulating medicines, to break up an ordinary fever.

Humboldt says; "In ascending mountains the heart beats violently and the blood rushes with force into the vessels of the skin in consequence of the diminished pressure of the atmosphere"; and it is on this principle that we employ the vapour bath in suspended animation. The pressure of the atmosphere being diminished, the heart is enabled to propel the blood to the different parts of the body, which it could not do under other circumstances; and a restoration to health is the consequence. These facts prove most clearly that heat is life. It is with' the use of the vapour bath, stimulants and *Lobelia Inflata* that we have been able to cure tetanus or lockjaw in less than half an hour in every case; it is by the same means we have broken up the most obstinate cases of fever. What we have done others can accomplish, if they will but attend to the laws of life, health, disease and its cure.

The following is the mode to administer a vapour bath :—Make a brick red hot, put it on an end in a can or any other convenient vessel; place the vessel with the brick thus in it under a chair; put a little flannel on the seat of the chair. The patient must be seated naked;

envelope him and the chair in a blanket sufficiently large and thick to reach the floor and exclude the air.

Should one blanket not be large and thick enough, use two or more; place them round the neck, so as to leave the head free; then give a dose of ginger or yarrow tea, cayenne or composition powder. Open the blanket at the bottom., pour a pint of boiling water down the side of the brick, and when the steam has done rising, add a little more till the brick is covered; if one is not sufficient, have two ready. Let the patient sit till he perspires freely in the forehead; then throw off the blanket, wash him down with cold vinegar and water, then rub quickly with a coarse dry towel; put his night-clothes on and put him to bed; or if he has sufficient power to keep up a reaction he may go out, if the weather be suitable. The following woodcut is a representation of a steam bath:—



It consists of a boiler made of the strongest tin, having a safety valve and steam tube, with a tap to which is attached india-rubber tubing of any required length, the other end of which tubing is attached to a box or receiver, in which herbs may be placed so as to medicate the bath. The steam passing through the herbs becomes impregnated with their properties, and leaves the receiver through the perforations in its top or lid. The boiler must be about two-thirds filled with water, then put over a brisk fire; the patient must be seated in a chair and enveloped in a blanket as before directed, and the receiver placed under a chair; the force of steam can be regulated by the tap. Herb teas or composition must be given as previously mentioned, and the rubbing attended to in precisely the same manner. The blanket should touch the floor to

prevent the escape of steam. We would recommend Turkish baths when they can be obtained, as they will answer the same purpose.

## **THE PROCESS OF DIGESTION.**

It is impossible in this work to go minutely into anatomy and physiology. Anatomy is worthy of the study of man, for anatomy teaches the structure of the body and of its different organs. Physiology teaches us what part each organ performs in the animal economy.

There is no study more deeply interesting, or more eminently calculated to awaken our love and admiration for the great Giver of all good; and yet, from some cause or other, it is almost entirely neglected as an elementary branch of education, with the exception of medical men; nevertheless, it ought to be a part of the education of our children.

What can be more sublime than to study the structure of the human frame, more particularly that portion in which the process of digestion is carried on? For, as Abernethy has truthfully said, "The stomach is the kitchen to the mansion, where all is prepared for the building up of our bodies." The human body, like every other organised structure, is continually wasting away, even to the deepest and most solid parts. This waste requires to be made up by the addition of new matter, and hence is required the functions of digestion, which changes foreign substances or food into the material of the body. This change is one of the most extraordinary phenomena we can contemplate, and is eminently worthy of our study.

Every part of the body is formed from the fluid we call blood, which is first formed from the food we eat. We are not acquainted with the precise means by which nature performs this function, or indeed any other, but we can point out the organs employed, and trace the changes the food undergoes in each one.

**MASTICATION**,—The first part of the process consists in the preparation of the food by grinding or breaking it up into small parts. This is accomplished by means of the teeth. During the process of mastication the food is moistened with a fluid called saliva, which is secreted by certain organs called the salivary glands found in the mouth. This moistening assists the act of mastication, and is essential to the passage down the oesophagus into the stomach. If it remained dry

neither act could be well accomplished, as most people know from experience. It is also probable that the saliva assists in the process of digestion afterwards. (See article on the Teeth.)

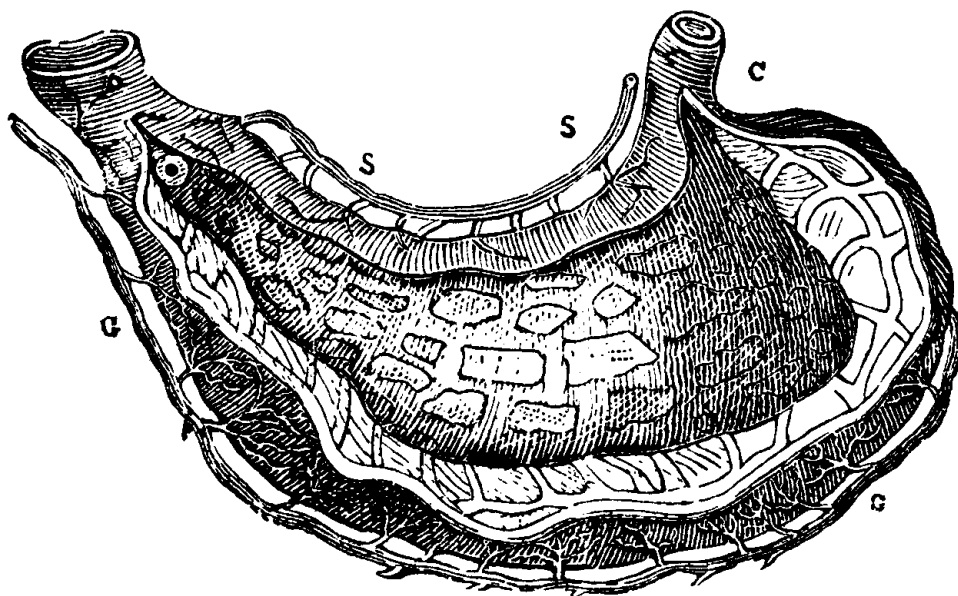
**CHYMIFICATION. OR DIGESTION IN THE STOMACH.**— When the food has entered the stomach from the oesophagus it undergoes the first part of the real process of digestion, and is converted into a greyish pulp, chyme. The stomach itself is a kind of pouch or bag, with strong muscular walls, which, by their contraction and relaxation, keeps the masticated food continually in motion— churning it, as it were, from side to side, and thus breaking it still finer and finer. The grand agent, however, in converting the food into chyme is a peculiar fluid called the gastric juice, which is secreted in the inner walls of the stomach. This fluid has remarkably solvent powers, which few substances can withstand. It acts upon all our ordinary articles of food with the greatest readiness, and has been known to attack also such substances as bone, wood, and even iron. It cannot, however, act upon any body so long as that body retains vitality. Thus we often find worms that live unhurt in the stomach and intestines, but immediately they die they are digested or dissolved ; and in like manner the stomach itself is uninjured during life, but frequently after death is found partly corroded or eaten away by the gastric juice.

The chyme as fast as it is formed is expelled by the contractile power of the stomach into the duodenum (from duodecum, consisting of twelve, because it is supposed to be about twelve inches long) or first portion of the intestines. It there meets with the bile from the liver, and with the pancreatic juice, which very much resembles the saliva, from the pancreas or sweetbread. By the action of these two fluids the chyme is converted into distinct portions—a milky white fluid named chyle, and a thick yellowish residue.

This process is called chylification or chyle-making. The chyle is then sucked in by absorbent vessels, extensively ramified on the inner membrane or lining of the bowels, and sometimes named, from the white colour of their contents, lacteals, or milk-bearers (from lac, milk). These lacteals ultimately converge, into one trunk, named the thoracic duct or chestpipe (from its course lying through the thorax or chest), which terminates in the great vein under the clavicle or collar-bone, hence called subclavian vein, just before the latter reaches the right side of the heart; and there the chyle is poured into the general current of the venous blood. To conclude its preparation it still requires to be

exposed to the action of the air during respiration. This is accordingly done by its passing through the lungs along with the dark or venous blood, which stands in need of the same change. In the course of this process both the chyle and venous blood are converted into red arterial or nutritive blood, which is distributed by the heart, through the arteries, to supply nourishment and support to every part of the body; hence the change which takes place in the lungs is properly enough termed sanguification, or blood-making.

The yellow residue left in the duodenum, after the separation of the chyle from the chyme, is that portion of the food which affords no nourishment, and which, after traversing the whole length of the intestinal canal, and undergoing still further changes, is thrown out of the body in the shape of excrement ; but in this course its bulk is increased, and its appearance changed, by the addition of much waste matter, which, having already served its purpose in the system, is at last thrown out by the same channel, producing what is called the peristaltic motion, which may also be compared to that of a worm, carrying the contents of the canal gradually through its whole length.



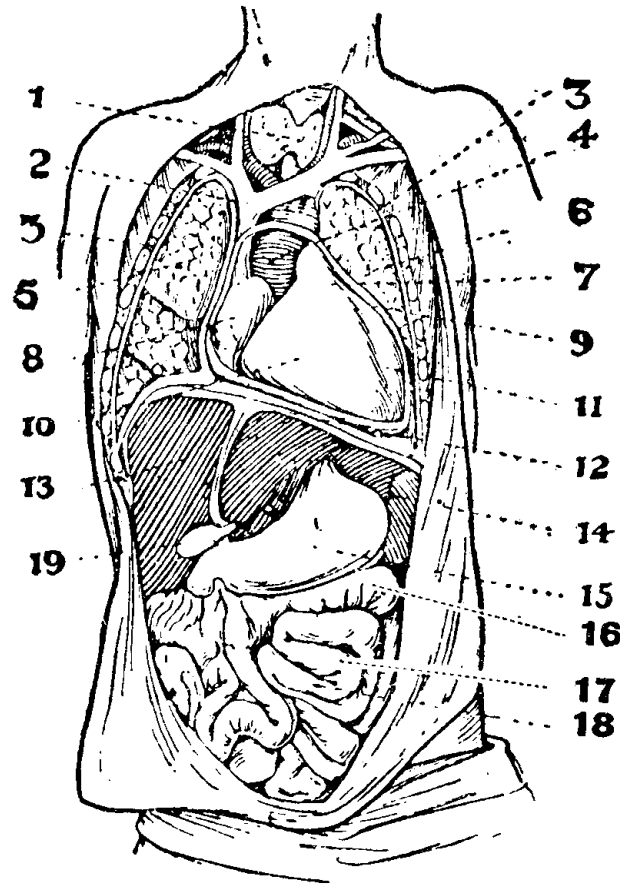
## THE STOMACH.

C—the cardiac orifice, through which food and drink are introduced.

P—the pylorus, or pyloric orifice (from pylorus or gatekeeper, because it allows none but digested food to pass out).

S S—the smaller arch, or curvature.

G G—the great arch, or curvature. The stomach, for the purpose of showing the pylorus, &c., is here laid open.

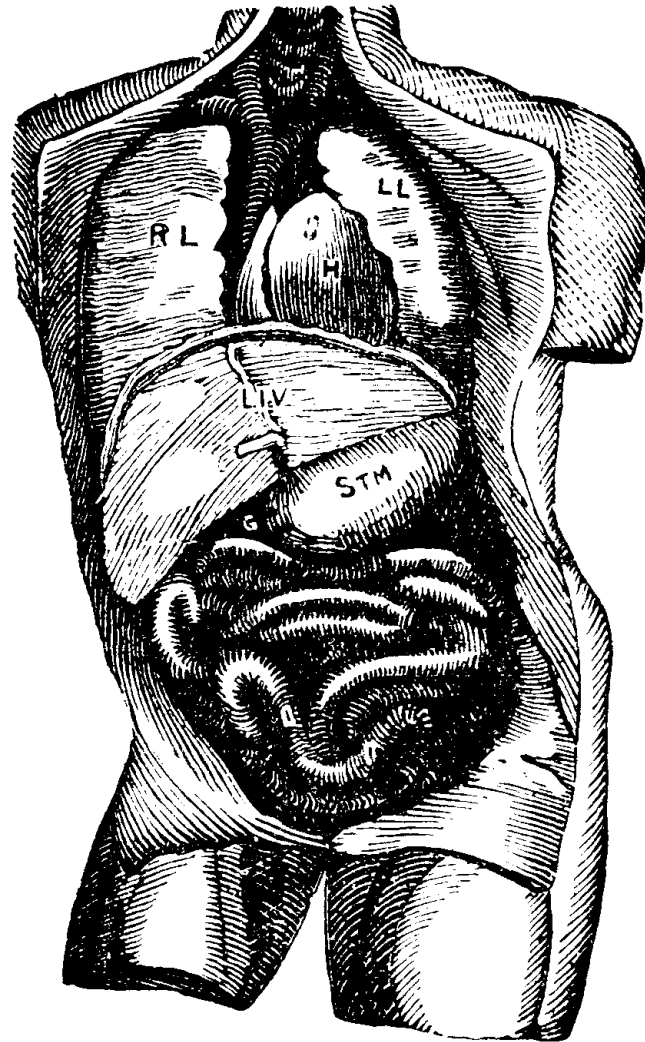


## ORGANS OF THE BODY.

- |                        |                       |
|------------------------|-----------------------|
| 1. Thyroid Body.       | 10. Right Ventricle.  |
| 2. Superior Vena Cava. | 11. Left Ventricle.   |
| 3. Pleura.             | 12. Diaphragm.        |
| 4. Aorta.              | 13. Liver             |
| 5. Right Lung.         | 14. Spleen.           |
| 6. Left Lung.          | 15. Stomach.          |
| 7. Pulmonary Artery.   | 16. Transverse Colon. |
| 8. Right Auricle.      | 17. Small Intestine.  |
| 9. Pericardium.        | 18. Descending Colon. |
| 19. Gall Bladder.      |                       |



THE FRONT OF THE BODY OPENED, SHOWING THE  
RELATIVE POSITION OF THE VARIOUS ORGANS.



V Venæ Cavæ.

R L Right Lung.

L L Left Lung.

H Heart.

LIV. Liver.

STM. Stomach.

I Intestines.

## **THE CIRCULATION OF THE BLOOD.**

Its vast importance, the peculiar mechanism by which it is effected, and the intimate relation it has with respiration and food, render it necessary for us to give the utmost attention to the circulation of the blood. We shall confine ourselves to a general description thereof.

The heart is divided into halves : one half receives and gives out arterial or red blood ; the other half receives and throws into the lungs venous or dark blood. Thus, as we have separate compartments in the heart, we have two kinds of blood to fill and be expelled from it. The red blood has been purified and fitted for the nourishment of every portion of the body. It leaves the left side by a blood vessel called the aorta or main pipe or conductor, No. 4. From the arch of this great tube and its branches arise vessels which supply the head and upper extremities. The aorta itself descends towards the lower extremities, giving off branches in the abdomen, which divide and sub-divide, as all the arteries do, until, like the twigs of a tree, they are lost in endless divisibility. The small ends of the arteries terminate in equally small veins, which, taking up the return blood, carry it towards the heart, the veins ending in branches, the branches in limbs, and the limbs in trunks. The course of the arterial blood is exactly opposite to that of the venous ; thus, if the arteries convey blood to the brain, the veins bring it down again to the heart; and when the former carry it to the feet, the latter take it upwards to the heart. To prove that this is the case, let the arms be bandaged, and the veins will only swell from the hand upwards, whilst the arteries will swell from the shoulders downwards to the bandage. This fact led Harvey to discover the circulation of the blood. The veins of the whole body terminate at the vense cavse, commonly divided into two—the superior bringing the blood from the chest, arms, &c., and also the chyle or product of digestion, poured into subclavian veins, on the left side; the inferior bringing the blood from the abdomen, lower extremities, &c. The venae cavae pours blood into the right side of the heart.

The reader will now view the heart as a root from which springs the aorta, and in which terminates the venae cavse. The arteries and veins, with all their ramifications, may be familiarly compared to trees, with their innumerable branches. The arterial tree distributes the blood from, the venous returns it to the heart; they generally accompany each other, or are laid down beside each other; for instance, the aorta goes

down the left, whilst the venae cavae returns on the right side of the spine,

When the venous blood arrives at the right side of the heart, it is conveyed by a large vessel which divides into two branches, and ends in close cluster, which ramify through the lungs. The blood is thus purified by the oxygen of the atmospherical air, and fitted for the nourishment of the body; it is then returned to the left side of the heart by four pulmonary veins, from whence it is thrown into the aorta, and distributed over the whole of the body, to go its round once more, and pass through its successive stages.