ANTHRISUM—ANTHEMIS.

Arisium, Anise, is the ripe fruit of Pimpinella Anium, a European plant of the nat. ord. Umbelliferae. It occurs in ovate bodies, 1 inch long, hairy, of grayish color, aromatic odor, and sweet, spicy, resembling comum fruit in appearance. Dose, gr. v. [av. gr. vijas].

Oelum Anisi, Oil of Anise, is a volatile oil distilled from Anis, and represents the medicinal qualities of the plant. It contains Anisodiol, C₆H₁₀O₂, or Anise-camphor, conglomerates medicinally of the quality. It contains Anisodiol, C₆H₁₀O₂, or Anise-camphor, conglomerates medicinally of the quality. It contains Anisodiol, C₆H₁₀O₂, or Anise-camphor, conglomerates medicinally of the quality. Dose, Cremon Fagut, Trichlor Glycerin et Opi. (One) of the following quantities. Dose, qv, 1/2; qv, 1/4; qv, 1/8; qv, 1/16; qv, 1/32; qv, 1/64; qv, 1/128.

Anis, Anise Water, has in 500 parts of OIl of Anise obtained with Talc, and mixed with distilled water. Dose, Indifferent. [av. 31].

Spiritus Anisii, Spirit of Anise, is a 16 per cent. solution of the oil in alcohol. Dose, qv, 1/4; qv, 1/8; qv, 1/16; qv, 1/32; qv, 1/64; qv, 1/128.

The Volatile Oil is the active constituent of Anis. It has slightly pungent action on the heart and the digestive organs, and liquefies the biliary secretion, being probably exerted in part by the bronchial mucous membrane. It is a favorite flavoring ingredient of cough-mixtures, and relieves slight intestinal colic and flatulence in children. In full doses it has weak narcotic power.

ANTHEMIS, Chamaemélle, the flower heads of Anthemis nobilis, a European perennial of the nat. ord. Compositae, collected from cultivated plants. They contain a volatile oil, a camphor and a bitter principle, but no acid. Dose, gr. xx—x [av. gr. xx]. There are no official preparations.

Oelum Anthemidis, Chamaemélle Oil (Unofficial),—the volatile oil, is of a dark blue or green color, and is composed of various ethers, the Anisodiol and Valerianol of Butyl predominating. Dose, qv, 1/4; qv, 1/8; qv, 1/16; qv, 1/32; qv, 1/64; qv, 1/128.

Incompatible with Anis are: Cinchona Infusion, Gelatin, Iron and Lead salts, Methyl Chloride, Silver Nitrate.

Chamaemélle is a diuretic tonic. It improves the appetite and aids digestion by increasing the clearness of the gastric mucous membrane. In large doses the urine is increased, probably due to the hot water. The oil is remarkably efficient in reducing reflex excitability in fevers, even after its exclusion by strychnine or bromide.

Chamoine is popular in domestic practice. An infusion is used internally for many infantile complaints, and externally as a counter-irritant to relieve pain, as in colic. The oil is very efficient in reflex cough, pulmonary catarrh, acute dyspepsia, diarrhea of children, syphilitic anemia, whooping-cough, cold, and the spasmodic and pseudo-scarlatinal affections of actual or historical women. It should prove useful in poisoning by Strychnine, from its power reflex excitability.

The Chamoine of the homoeopaths is the Matricaria Chamomilla, or German Chamomile, official in the U. S. Pharmacopoeia as MATERIAE, which see.

ANTIMONIUM, Antimony, Sb.—Metallic antimony is not official, and is not used in medicine. It is represented, however, by the following official salt and preparations, viz.—

Antimonii et Potassii Tartar, Antimony and Potassium Tartrate, (Tartar Emetic), K₂H₂O₂·H₂O·H₂O, is a white crystals, or a granular powder of sweet, disagreeable metallic taste, soluble in 17 of water at 30° F. and in 1 of boiling water, insoluble in alcohol. It is decomposed by alkalis, and by Lead salts. Dose, gr. xvii, [av. expectorant gr. xv]; antimonial, gr. vii; but after tolerance is established as high as gr. iv may be given. It is an ingredient of the following, viz.—

Vinum Antimonii, Wine of Antimony,—has of Tartar Emetic & boiling Distilled Water, gr. xvi. Alcohol, 1/2. While Wine to roos. Contains about 2 grains of Tartar Emetic to the 3., and is an ingredient of Mixtum Glycerinum Compositum. Dose, qv, 1/2; qv, 1/4; qv, 1/8; qv, 1/16; qv, 1/32; qv, 1/64; qv, 1/128; qv, 1/256; qv, 1/512.

Sympor Siccis Compositum, Compound Syrup of Quill, Castor OIl Mixture, Horse Syrup (see under Sella),—contains about 1 grain of Tartar Emetic to the 3., with Quill, Senna, etc. Dose, qv, 1/2—1, cautiously in children. [av. 1/4].

Incompatibles.

Incompatible with Tartar Emetic are: Acacia, Acids (mineral), Alumbum, Alcohol, Alkaloids, Ammonium Carbonate, Antipyrine, Bichromates, Carbonates, Calomel Chloride, Gelatin, Lead salts, Lime-water, Muriatic Chloride, Metallic salts, Saltpetre, Tartrate Acid, and aromatic vegetable preparations.

Physiological Action.

Tartar Emetic in its action represents the antimonial preparations, and is a cardiac: arterial and general depressant, a protopathic poison, a sympathic and local emetic, a specific gastro-intestinal irritant, an expectorant and a diaphoretic. Like aconite, arsenic, hydrocyanic acid and potassium salts, it is destructive to protoplasm, destroying function in all nervous tissue, and paralyzing the spinal cord, the motor nerves, the muscles and the sensory nerve terminations. It is especially depressant to the heart-muscle and the cardiac motor ganglia; it combines with the red blood-corpuscles, lessening their oxidizing power, lowering the blood-pressure and reducing the body-temperature. Its taste is styptic and one of its earliest effects is the production of constriction of the fauces. It promotes waste and rapid excretion of waste products, carbonic acid and urine being especially increased. Being eliminated by all the excrretory organs, including the skin, it excites follicular inflammation at the points of elimination; resulting in an eruption which is popular at first, then becomes vesicular, and finally purulent, the pustules being umbilicated like those of varicella. This same eruption is also produced by the application of the drug to the skin with friction. Aphthous ulcerations, extending from the
MOUTH TO THE STOMACH, WITH SALIVATION AND PAINFUL DEGLUTITION, MAY ALSO RESULT FROM ITS CONTINUED USE.

In small doses Tarter Enetic stimulates secretion in the bronchial and salivary glands, the stomach, intestinal canal, liver and pancreas. In larger doses it excites nausea, vomiting and purging, with evacuations like the "rice-water" discharge of cholera, and great prostration of the vital powers. Toxic doses produce similar symptoms, besides epigastric pain, cyanosis, delirium, cramps, motion and sensory paralysis, suppression of urine and collapse—the same phenomena as in Asiatic cholera.

THERAPEUTICS.

Tarter Enetic was formerly much employed as an antiphlogistic on account of its power to cut short acute inflammatory attacks of malarial type, but its use was greatly abused, so that it has now gone out of fashion as a remedy. The contra-indications of pneumonia and other inflammatory diseases, by large doses of this salt after tolerance was established, is only worthy of reference as an historical fact. The same may be said of its external use as a counter-irritant as well as of its employment as an emetic, in both of which capacities it is too severe, while its emetic is too tardy in action to be of any value in poi-soning. It is, however, a very efficient agent in many grave affections, if used in small doses (gr. 1/5–1/2), being highly efficacious in acute inflammatory affections of the respiratory tract, especially pneumonia, broncho-pneumonia, acute edema of the lungs, feverish and catarrhal colds, bronchitis, laryngitis and tonsillitis. In many respects it acts like Acetol in these and kindred affections, producing copious diaphoresis, slowing the pulse and allaying restlessness. It is considered a good remedy in puerperal peritonitis, mumps, and orchitis, in lumbago and other muscular rheumatism, also in photophobia and in gastric indigestion after beer-drinking. In still smaller doses (gr. 1/50 hourly) it is useful in catarrhal inflam-mations of the respiratory mucous membrane in children, accompanied by rattling breathing and much mucus, which is expelled with difficulty. Such cases often simulate asthma, the attacks being marked by cough, wheezing, and difficult respiration, with sibilant rales in the chest, and usually following on severe colds or on measles. The Compound Syrup of Squill is commonly used as an expectorant and nauseant in the treatment of bronchitis and croup, but the quantity of tartar emetic in it (gr. 1 to the 3) should be remembered when administering it to children. (See under SQUILL.)

ANTIPYRINA, Antipyrine, Phenyl-dimethyl-pyrazol, C₇H₇N₂O₃, official in the B. P. under the name Phenazonum, Phenazonum.—It is a crystalline substance obtained from phenyl-hydrazine, and prepared by a patented and complicated process. It is a synthetic base, forming salts which are analogous to those of Ammonium; and occurs as colorless and inodorous scaly crys-tals, with a bitter taste, freely soluble in water and alcohol, and less

soiluble in ether. It gives a deep red color with ferric chloride, a deep green with nitrous acid, and with nitric acid a yellow color which deepens to crimson on warming. Dose, gr. 1–x [av. gr. iv.]

DOSE AND ADMINISTRATION.

The B. P. gives the dose as gr. 1/2–x. For children the dose is gr. 1 per year of age between 2 and 10 years, not exceeding gr. iv for any child under 5 years. It has but little flavor, is not unpleasant to the taste, and is readily taken by children. It is best used in aqueous solution with half its quantity of Sodium Bicarbonate. In carious or powder it frequently irritates the stomach. It may be used hypodermically, in half its weight of hot water, but phosphates is liable to follow on this method.

INCOMPATIBLE.

Incompatible with Antipyrine are: Alum, Ammonia-water, Amyl Nitrite, Benzoates, Benzoic Acid, Benzoin, Benzyl Alcohol, Bismuth, Copper, Copper Sulphate, Copper Chloride, Ferric Chloride, Ferric salts in solution, Ferric Sulfate, Hydriodic Acid, Iodine, Iodides, Lecithin, Muriatic Acid, Nitrates, Sodium Bicarbonate, Sodium Chloride, Spirit of Nitrous Ether, Tartar Enetic, Tartrate Acid, Thymol, Urethane, also Tinctures of Calamus, Cinchona, Hamamelis, Indigo, and Rhubarb, and Inodolins of Catechu, Cinchona, Hemonaria, Indigo, and Rhubarb.

Antipyrine and Epsom Salts liquify when rubbed together. Antipyrine may be decomposed when brought into contact with Nitrous compounds, a new and poisonous substance being supposed to be formed, of uncertain composition, but resembling the Asulin greens. The mixture of this drug with Spiritus Ethesii Nitrosus is therefore highly dangerous if a supposed reaction is at all likely to occur.

Unofficial Preparations and Derivatives.

Acratropin,—A combination of Antipyrine and Asphen, has been used with benefit in rheumatism and neurasthenia. Dose, as an antipyrine gr. viii–xvii, in rheumatism gr. xvii–xvi.

Ferropyrine,—A compound of 3 molecules of Antipyrine with 1 molecule of Ferrous Chloride, and contains of Antipyrine 64 per cent., of Chlorine 24, and of Iron 12. It occurs as an orange-red, insoluble powder, soluble in 50 cc. of water, freely in alcohol, insoluble in ether. Incompatible with Alkalis, Carbonates, and Bicarbonates. Dose, gr. vi–vii internally; as a styptic in 20 per cent. aqueous solution.

Hypnol,—A combination of Antipyrine and Chloral, heated together, which is credited with hypnotic and analgesic power. It is described under CHLORAL.

Migrate—A double Crystall of Antipyrine and Carbolic, lately brought forward in Germany as a specific for sick headaches and neuralgia. A report is published that the police of Hamburg have issued a notice forbidding its free sale in the local pharmacies, and warning the public against using it except under a physician’s direction (liquidi). The dose is placed at about gr. xv.

Phenopryne,—It is prepared from equal parts of crystalline Phenol and Antipyrine. It is an oily liquid, colorless and odorless, insoluble in cold and sparingly soluble in hot water. It has yet no medicinal properties.

Pyramidon, Dimethyl-amido-antipyrine,—It is a derivative of Antipyrine by substitution process, and is highly praised as an antipyrine and analgesic. It occurs as a yellowish white, crystalline powder, soluble in 20 parts of water. Its applications are the same as those of Antipyrine, but it is less soluble, slower in action, more lasting in effect, and more thymol-like. Its results may be produced by it with about one-third the dose. Dose, gr. vii–xvii, thrice daily.

Salipyrine, Antipyrine Sulfate,—It is formed by combining Sulfuric Acid (7:7) and Antipyrine 2:3 parts; and is the only salt of the base which has much therapeutic importance. Described under Salicylate.

PHYSIOLOGICAL ACTION.

Antipyrine is a powerful antipyrine, a local anesthetic, and a general analgesic, also possessing diaphoretic, mydriatic, antispetic, hemostatic and slight hypnotic powers. After the injection of a large medicinal dose (gr. xx), there

FAC. DE MED. U. A. N. L.

BIBLIOTECA
is a stimulant stage of short duration, in which the heart's action is increased,
and a subjective sense of heat is experienced, with flushing of the face. This
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One of the most popular of the modern antipyretics, Antipyrine deserves
high rank in professional esteem, being an excellent analgesic and one of the
most certain and most powerful depressants of temperature, though somewhat
dangerous, and devoid of any other influence upon the course of febrile dis-
orders. Its principal applications are as follows: As an antipyretic it has been
employed in all diseases. It is used in ischæmic fever, as it has little effect upon the circulation. It has held a high place for
several years in the treatment of acute rheumatism, and affords valuable aid
in the pyrexia of intermittent fever, a stage in which the slow action of quinine
prevents that drug being available for immediate relief. As an analgesic it is
highly efficient except when the pain is dependent upon a local inflammation,
in which case it is of no value for this purpose. It is often remarkably effi-
cient in migraine and other headaches, in the fulminating pains and pain-crises
of locomotor ataxia, and in other paroxysms of suffering dependent on disease
of the nerve centres, or having the character of nerve storms. It is very service-
able in neuralgia, neuritis and other painful affections, especially when of rheu-
matic origin, as lumbago, sciatica, bicipitism, supra-orbital neuralgia, in which
ten-grain doses are generally sufficient and may be given hypodermically. It
often relieves dysesthesia, also the painful affections of hysteria, pain from
cerebral tumours, and that due to cardiac disease. In acute gout, a prelimi-
nary dose of 25 grains, followed by 10-grain doses every two hours, promptly relieved
the pain and shortened the duration of the paroxysms in one very carefully ob-
erved and thoroughly reported case. In chronic gout, very remarkable results
are reported as due to it, indicating a specific and curative influence on that
disease. For the relief of pain, the conjoint administration of Antipyrine and
Morphone is reported to be much more efficient than the use of either agent alone.
To allay nervous irritation; it has been used with extraordinary success in nervous
urticaria, and is often employed with benefit in the restlessness of hysterical
subjects. In the urticaria-like eruptions of children its action is so promptly
efficient as to indicate for it a direct influence upon the vascular nerves; and
as a symptomatic remedy against itching is equally efficient in nervous pruritus,
true purigo, urticaria, erythema, pemphigus vulgaris and lichen ruber. To
Antipyrine is held in the highest esteem as a curative remedy, and although it often fails
entirely in epilepsy, it sometimes acts therein with extraordinary power, especially
when given in combination with ammonium bromide. As a preventive remedy
for whooping-cough it ranks high among the remedies used for that
purpose. To affect secretion, as in infantile dyspepsia, in which it has rendered signal service,
in which it has rendered signal service,
in which it has rendered signal service,
in which it has rendered signal service,
in which it has rendered signal service,
APICOLUM. — AQUA.

Discharge is fruitful. It is becoming fashionable as a supposed abortifacient, but is useless for this purpose, and if freely used may produce decided narcosis, especially if the preparation employed should happen to be an active one. Cases of poisoning by Apipol are seldom seen, as the French preparation in capsules sold in this country over the counters of drug-stores to any applicant are generally inert for either good or evil, though an important source of revenue to the druggists.

APICOLUM, Canadian Hemp. — is the root of Apicolum cannabinum, an indigenous perennial plant of the Nat. ord. Apocynacum, and is found in hot, dry climates, and is occasionally taken in the form of tea, or as a powder. The root is used in doses of 3 to 5 grains daily.

Fluoridatum Apocyni. — is a preparation of Fluoridatum Apocyni, used in the treatment of certain skin diseases.

Apoecylum, a poisonous plant, is a very dangerous and deadly poison, and should be handled with great care.

AQUA, Water, H₂O. — is potable water, in its purest attainable state, a colorless, limpid, liquid, devoid of odor or taste, and of neutral reaction. Besides entering into the composition of most of the official extracts, fluid extracts, and many other pharmaceutical preparations, from it are prepared the 17 official Waters (Aqua), and also the following:

Aqua Distillata, Distilled Water. — is pure water, distilled from potable water, and is used in the preparation of many pharmaceutical extracts. It is described on p. 206 in this book.

Aqua Carbonata, Carbonated Water. — is water to which carbon dioxide has been added, and is used in the preparation of many pharmaceutical extracts.

Aqua Eruptativa, Fervent Water. — is water that is heated to boiling point, and is used in the preparation of some pharmaceutical extracts.

Aqua Fleviana, River water. — is water from a river, and is used in the preparation of some pharmaceutical extracts.

Aqua Lattea, Milk water. — is water to which milk has been added, and is used in the preparation of some pharmaceutical extracts.

Aqua Medicina, Sea water. — is water from the sea, and is used in the preparation of some pharmaceutical extracts.

Aqua Muriatica, Carbonated Water, Soda Water. — is water to which carbon dioxide has been added, and is used in the preparation of some pharmaceutical extracts.

Aqua Putealis, Well water. — is water from a well, and is used in the preparation of some pharmaceutical extracts.

Aqua Purpurea, Spring or Well water. — is water from a spring, and is used in the preparation of some pharmaceutical extracts.

Aqua Venetiana, Common Water. — is water from a city, and is used in the preparation of some pharmaceutical extracts.

NAMELESSness of Water.

Mineral Waters.

Natural water differs from distilled water in containing saline and other substances in varying proportions, from common water (aque communis), in which it is so small in quantity as not to alter the taste, color, etc., up to sea-water, having 2½ per cent., and that of the Dead Sea with 26½ per cent. Spring waters, impregnated with foreign substances so as to have a decided taste and a marked action on the human system, are called Mineral Waters,
which may be subdivided into various groups, according to their prevailing constituents, as Carbonated, Alkaline, Saline, Sulphurated, Silicate, etc. Full analyses of all the principal mineral waters of Europe and America are given in "Spiry's Comparison to the British Pharmacopoeia," also in the 15th edition of the United States Dispensatory, but a few of the most prominent will be mentioned here.

**Alkaline Mineral Waters**
- Baden, Germany
- Baden-Baden, Germany
- Bagno Vals, France
- Vichy, France
- Paris, France
- Vichy, France
- Vichy, France
- Bagno Vals, France

These waters are generally cold, those of Vichy and Eau being warm. They contain a considerable amount of Sodium Carbonate, besides Sodium Chloride and Sulphate, and vary in quantity from 12 grains of Sulphate per pint to 22 grains of Sulphate per pint. Carbonic Acid gas is present in varying quantity.

**Sulphate Mineral Waters**
- Bagno Vals, France
- Bagno Vals, France
- Bagno Vals, France
- Bagno Vals, France
- Bagno Vals, France
- Bagno Vals, France
- Bagno Vals, France

These waters are of more complex composition, the various waters of Sulphate containing more than thirty constituent salts. Those usually present are the Sulphates and Carbonates of Sodium, Calcium, Magnesium, etc. (Manganese salts); Chlorides of Sodium, Potassium and Lithium (Chloride water), with Sodium, Potassium and Lithium (Chloride water), with Sodium, Potassium and Lithium (Chloride water), with Sodium, Potassium and Lithium (Chloride water). These waters are considered intercalary and in small quantities they are useful.

**Physiological Action of Water**

Water is an essential constituent of all the tissues of the body. All the liquid of the interior of the tissues is composed of the 78 per cent. of the body. In the liquids of the organism it is contained in the proportions of 78 per cent. of the blood of 93 of the urine, and 93 of the tears.

Cold water applied externally, as by a bath (40°-60° F), acts as a portion of the body-heat, lowering the surface temperature and depressing the cutaneous nerves, producing spasmodic breathing and a quickened pulse. If the temperature of the water is not too low and the bodily vigor is good, reaction soon occurs, and the general effect is tonic to the muscular power, to the circulation and the respiration. If this does not take place a secondary chill occurs, and serious depression may result. Internally in moderate quantity during meals it is necessary to digestion, but in large quantity it impairs digestion by diluting the gastric juice so much as to weaken it. Ice-cold water, if freely used, suspends the action of pepsin, depresses the nerves of the stomach, and lowers its blood supply. The free use of water internally produces increased cutaneous and renal excretion; and promotes the elimination of some of the products of tissue-change, as urea and phosphoric acid. In some subjects it favors the digestion of fat, and with many persons a glassful of water taken before breakfast will act as a laxative.

Warm water (95°-100° F) applied to the surface of the body, as by baths or steam, packing, etc., acts in the opposite manner at first, increasing the circulation of the skin, the rapidity of the pulse and respiration and the body-temperature. Rapid tissue-change occurs, the waste products being eliminated chiefly by the skin and the pulmonary mucous membrane. If long continued, precardial oppression, giddiness and muscular debility are experienced. Warm water internally often causes nausea and vomiting, but hot water, sipped in small quantity frequently, will alleviate these symptoms in many cases.

Hot water (110°-115° F) first dilates the vessels of the part to which it is applied, and soon afterwards contracts them. It is a valuable means of relieving congestion and inflammation, and is a most effective hemostatic when the bleeding is from small vessels or of capillary character. Whether generally or locally applied it is one of the most reliable means of relieving spasm. Hot water applied to the surface accelerates the circulation and produces profuse sweating. In general action it is similar to that of warm water.

Mineral waters taken internally act chiefly by virtue of the water, partly in accordance with the effects of their various constituents. As baths, their action is doubtless entirely due to their temperature.
Pathogenic Microbes of several diseases, notably those of cholera and typhoid fever, are conveyed to the human system in drinking water contaminated therewith. But these organisms are destroyed by a temperature of 145° F., in the absence of their spores, while organisms are destroyed by a temperature of 14°F., that of boiling water, maintained for five minutes. The effect of the spores of all pathogenic organisms, which have been tested (Christensen), is of the highest practical importance, as it shows that no germ of disease need ever gain entrance to our bodies through our drinking water, if only we boil it. Many years ago an English physician used boiling water in his practice for the treatment of typhoid fever, but in the Orient this practice is still followed. In fact, it is known that the Chinese boil all the water they drink.

The Therapeutics of Water.

Cold water (or ice) has many external applications of value in the treatment of disease. As a wet pack it is used in toilitis, dermatitis, and gout. Cold baths are the most effective antipyretic in the high temperature of fevers, and the cold wet pack is used for the same purpose. Ice or cold water is applied to the head in acute cerebral congestion, and to the spine in chorea; also locally in hemorroids, boils, orchitis, and to the uterus in post-partum hemorrhage. Cold affusion to the body is employed as a preventive of spasmodic chills.

Hot water externally, as fomentations, hot wet packs, baths, etc., is most effective in reducing local congestion and setting up resolution of local inflammation. Hot fomentations to the renal region are useful in functional inactivity of the kidneys. The hot spinal douche is used in affections of the spinal cord and meninges, and in the backache of women. The hot wet pack is highly esteemed in inflammation of the thoracic organs. The vaginal hot water douche is valued by gynecologists for many morbid conditions of the uterus and its appendages, especially carcinoma of the vaginal and cervical mucous membrane, subinvolution of the uterus, also congestive, swollen and neuralgic conditions of the ovaries, tubes and adjacent tissues. The continuous hot water bath was commended in skin diseases by Herta, who administered it in cases of extensive burns, pemphigus, and eruptions. The continuous immersion in very hot water of an indolent wound, ulcer or sore, is a method of great efficiency in the treatment of the healing process in cases which have resisted the ordinary stimulant applications. Hot water dressings for wounds are strongly favored by many high surgical authorities. Vapor and Turkish baths are used in the treatment of chronic rheumatism, as diaphoretics in advanced kidney disease, in acute and chronic rheumatism, as diaphoretics in advanced kidney disease.

Internally, water is chiefly of value as a diuretic, and if hot as a diaphoretic. A glass of cold water before breakfast during hot weather is an effective means of overcoming constipation, while the drinking of hot water an hour before each meal in the morning has been of great value to many dyspeptics. The value of the popular tea in chronic diseases is almost entirely due to the diuretic and diaphoretic actions of the hot water used. Large draughts of water at regular intervals between meals are extremely useful in renal insufficiency, acute Bright's disease, acute cystitis, gravel, and gout, increasing the urinary flow and the excretion of urea, washing out the kidneys, lessening renal irritation and promoting the excretion of uric acid.

The various methods of introducing water into the body, by enemesis, hypodermoclysis, and infusion, are of great therapeutic value, and have almost entirely replaced the older measure of the transfusion of blood into the circulation. The normal saline solution (5% of sodium chloride to the pint of water) is preferred to plain water, as it does not injure the blood corpuscles, and prevents the absorption of vital salts when used in the intestinal canal. Enemesis is the injection of the colon by large catheters of water, plain or medicated, hot (102° to 105° F.) and cold (65° F.), for the purposes of cleansing the canal, relieving intestinal obstruction, promoting diuresis and the elimination of toxins, preserving the body heat, and reducing fever; also as a stimulant in shock and collapse, and to supply lost fluid after copious hemorrhages, hyper-purulation, and other drains of the system. From 2 to 4 quarts may be used if injected slowly, and with proper position of the subject and suitable appliances, the injection may be carried to the carotid sinus. The medicinal agents usually employed are Sodium Chloride 1 to 4, making the normal saline solution, Thionin A 0.5 to 0.7 percent, Tartric Acid 1 to 2 per cent., Boric Acid 9 to 10, Quinine Sulfate 1 to 20, and Silver Nitrate 1 to 1,750; the two latter agents being used in amebic and chronic dysentery. Hypodermoclysis is the deep injection into the cellular tissue of a sterilized normal solution. When slowly administered, and at different sites, from 1 pint to 1 pint, at a temperature of about 105° F., may be introduced without much pain or local irritation. The sites usually chosen are the thigh, buttocks, back, breast, and in women the sub-mammary region. Infusion is the injection of a sterilized normal saline solution, at a temperature of 105° F., directly into the vascular system, usually through a vein. These methods have proved extremely valuable in shock, hemorrhage, sepsis, uremia, diarrhea, acute, chronic and amebic dysentery, cholera, typhoid fever, poisoning by alkaloids, and other toxic conditions.

The Therapeutics of the Mineral Waters.

An unwise value is placed by the laity and interested proprietors on the medicinal value of mineral waters, causing the various localities of the best advertised springs to become resorts for invalids and idlers from every civilized country. The benefit derived is in most instances due to the change of climate and scene, freedom from home cares and business worry, regularity of diet and exercise, drinking of water in quantity, and in many cases the substitution of water for alcoholic beverages. In order to get the worth of their money, people will gladly submit to rigid hygienic and dietary restrictions at a water-